

MONO COUNTY GENERAL PLAN DRAFT EIR



SECTION 4.4 BIOLOGICAL RESOURCES

4.4.1 INTRODUCTION AND SUMMARY

The following discussion of biological resources is condensed from analyses prepared for the *RTP/General Plan Update* by the consulting biologist, James Paulus, Ph.D. Dr. Paulus' assessment provides a very focused and detailed analysis of biological resources on privately owned land generally situated in and around communities where growth is more likely to occur. The full text of Dr. Paulus' focused assessment is provided online at the Mono County General Plan website: <http://monocounty.ca.gov/planning/page/mono-county-general-plan-update>.

To provide a larger context for the focused Biological Assessment, this EIR section also describes in §4.4.3 a discussion of existing biological resources in Mono County at a 'landscape' scale. The broad overview provided in §4.4.3 is based in part on the information provided in *MEA* Chapter XVII, available at <http://monocounty.ca.gov/planning/page/mono-county-general-plan-update>, and the reader is also referred to the following documents by public land management agencies:

- *Inyo National Forest Assessment* (http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5444577.pdf),
- *Bishop Resource Management Plan Record of Decision* (<https://archive.org/details/bishopresourcema11unit>),
- *Sierra Nevada Forest Plan Amendment Final supplemental Environmental Impact Statement (2013)* (http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5434157.pdf), and
- *Biological Assessment for the Sierra Nevada Forest Plan Amendment Supplemental Environmental Impact Statement (2003)* (http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5415992.pdf).

This section of the EIR incorporates information requested in NOP comments received from the California Department of Parks and Recreation (CDPR), including analysis of non-native invasive weed prevention, detection and control; and aquatic invasive species prevention, detection and control. The full text of CDPR's comment letter is provided in Appendix B. Key findings of this section are summarized below.

SUMMARY OF GENERAL PLAN IMPACTS AND POLICY MITIGATIONS FOR BIOLOGICAL RESOURCES

IMPACT BIO 4.4(a):	POTENTIAL IMPACTS ON CANDIDATE, SENSITIVE OR SPECIAL STATUS SPECIES
Pre-Mitigation Significance:	Potentially Significant Impacts
Mitigating Policies:	See Table 4.4-10 in Appendix D
Residual Significance:	Potentially Significant Impacts
IMPACT BIO 4.4(b):	POTENTIAL IMPACTS ON RIPARIAN OR OTHER SENSITIVE NATURAL COMMUNITIES
Pre-Mitigation Significance:	Potentially Significant Impacts
Mitigating Policies:	See Table 4.4-10 in Appendix D
Residual Significance:	Potentially Significant Impacts
IMPACT BIO 4.4(c):	POTENTIAL IMPACTS ON WETLAND RESOURCES
Pre-Mitigation Significance:	Potentially Significant Impacts
Mitigating Policies:	See Table 4.4-10 in Appendix D
Residual Significance:	Potentially Significant Impacts
IMPACT BIO 4.4(d):	POTENTIAL IMPACTS ON WILDLIFE MOVEMENT OR NURSERY SITES
Pre-Mitigation Significance:	Potentially Significant Impacts
Mitigating Policies:	See Table 4.4-10 in Appendix D
Residual Significance:	Potentially Significant Impacts

IMPACT BIO 4.4(e):	POTENTIAL IMPACTS ON LOCAL POLICIES OR ORDINANCES
Pre-Mitigation Significance:	Potentially Significant Impacts
Mitigating Policies:	See Table 4.4-10 in Appendix D
Residual Significance:	Potentially Significant Impacts
IMPACT BIO 4.4(f):	POTENTIAL IMPACTS ON HABITAT CONSERVATION PLANS
Pre-Mitigation Significance:	No Impact
Mitigating Policies:	See Table 4.4-10 in Appendix D
Residual Significance:	No Impact

4.4.2 KEY TERMS USED IN THIS SECTION

The following key terms are used throughout this section to describe the range of biological resources in Mono County and the framework that regulates them.

Bryophytes. Nonvascular, herbaceous plants that grow closely packed together, generally in small mats or cushions on rocks, or on the soil surface (i.e. as a “cryptophytic crust”). Bryophytes comprise three separate evolutionary lineages including mosses, liverworts and hornworts. Bryophytes produce no flowers or fruits and most of them have no inner vessels for water or nutrient transfer. They reproduce with spores and can also generate new plants from segments of cut stems or leaves. Vascular plants (*tracheophytes*), in contrast, are defined as having lignified tissues for conducting water and minerals through the plant, and diploid (two sets of) chromosomes (only the germ cells and gametophytes are haploid). In general, vascular plants are able to grow independent roots, woody structures for support, and more branching than non-vascular plants such as bryophytes.

Facultative and Obligate Wetland Adaptation. Plant species that are recognized to have obligate wetland adaptation are generally found only in those habitats that qualify as wetland within any given landscape. In contrast, facultative wetland-adapted species may be found in non-wetland portions of that landscape, but have phenological or structural characters that would allow them to also grow in wetlands. The viability of obligately adapted plant populations therefore would generally be more sensitive to variation in the timing and duration of environmental wetness, for example human-induced alterations to the timing or depth of seasonal root zone inundation by the shallow groundwater table under normal conditions.

Lichens. Lichens are a primitive group of organisms that result from a unique symbiosis of two species (a fungus and an alga) that belong in separate kingdoms but function as a single biological unit. Lichens can live in a wide range of ecosystems. Along with bryophytes, lichens are often the first organisms to colonize newly exposed surfaces. Lichens are generally sensitive indicators of high air pollution concentrations, because they cannot defensively sequester many anthropogenic pollutants.

Migration Corridor. A route that migratory animal populations use during annual movements from one habitat or region to another. For example, mule deer move semi-annually between higher altitude habitats that provide good browse and fawning opportunities and lower altitude habitats that are suitable for overwintering. Mule deer migration routes are learned paths that year-to-year appear to be faithfully followed, and that include known “holding areas”, where migrating herds linger while awaiting seasonal changes in the phenology of their browse.

Palustrine. Palustrine comes from the Latin word palus or marsh. Wetlands within this category include inland marshes and swamps as well as bogs, fens, tundra and floodplains.

Phreatophytes. Plants that could not persist due to normal rainfall alone; these species depend at least seasonally upon groundwater that comes within reach of their roots. Although not confined to the arid regions of the Western United States, occurrences there are more starkly evident in the xeric landscape, are more notable, and, because of their effect on water supply, are more important than would be in more humid regions or mesic habitats. Plant communities that are dominated by native phreatophytes typically create, help to visually define, and function to maintain economically important habitats at riparian zones.

Plant Community. A unit of vegetation mapping that results when local plant species assemblages are divided according to the visibly dominant species. For example, “Willow Riparian Scrub” may be differentiated as distinct from

“Aspen Riparian Forest” within the same riparian zone. Plant communities may be usefully classified by distinguishing the dominant species alliances. California Department of Fish and Wildlife (CDFW, formerly known as the California Department of Fish and Game) uses the level of the Alliance to determine whether or not a status of “Sensitive” should be recognized for any given plant community. For example, CDFW distinguishes the relatively common willow-dominated alliance *Salix exigua* – *S. lasiolepis* from the Sensitive willow-dominated alliance *S. lutea* – *S. lasiolepis*, although both may be visually similar forms of Willow Riparian Scrub. In this EIR section, the term “plant community” (syn. “alliance”) is used interchangeably with the term “vegetation type”, in order to avoid confusing references to anthropogenic communities (Chalfant Valley, Benton, etc.)

Riparian Zone. The typically corridor-like riparian zone includes all habitats, plant communities, streams, rivers, lakes, wetlands, and floodplains formed by naturally occurring surface flow or shallow groundwater table, or by long-standing, constructed (but unlined) conveyances. These zones and their ecotonal boundaries with the surrounding uplands can be regarded as complex ecosystems comprised of interrelated hydrological and biological resources.

Ruderal. Ruderal species are those that colonize or thrive in areas that have been disturbed, as by fire or cultivation or grading.

Sensitive Plant Community. A naturally occurring plant community that is regionally rare, provides important habitat opportunities for wildlife, is structurally complex, or is otherwise of special concern to local, State, or Federal agencies. CEQA identifies the elimination or substantial degradation of such communities as a significant impact. The CDFW tracks sensitive natural communities in the California Natural Diversity Database (CNDDB).

Sensitive Species. The CDFW inventories sensitive plant and wildlife taxa in the CNDDB, regardless of their legal or protection status¹. As used in this analysis, sensitive taxa are species, subspecies or varieties that fall into one or more of the following categories: (a) listed by California or the Federal Government as Endangered, Threatened, or Rare; (b) candidate for state or federal listing as Endangered, Threatened, or Rare; (c) CDFW Species of Special Concern; (d) other taxa which meet the criteria for listing, even if not currently included on any list, as described in §15380 of the CEQA Guidelines; (d) taxa listed as sensitive by the Bureau of Land Management (BLM), US Forest Service (USFS), or US Fish and Wildlife Service (USFWS). Within the CNDDB, CDFW defines ‘Species of Special Concern’ (SSC) as a species, subspecies, or distinct population that is native to California and currently satisfies one or more of the following (not necessarily mutually exclusive) criteria: (a) is extirpated from the State or, in the case of birds, in its primary seasonal or breeding role; (b) is listed as Federally-, but not State-, Threatened or Endangered; (c) meets the State definition of threatened or endangered but has not formally been listed; (d) is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; and/or (e) has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State Threatened or Endangered status. In this analysis, sensitive plant taxa also include any species ranked by the California Native Plant Society (CNPS) as category 1 and 2. Some Rank 3 and 4 plants may also qualify under CEQA §15380. CNPS rankings indicate taxa that (a) are biologically rare, very restricted in distribution, or declining throughout their range but not currently threatened with extirpation; (b) have populations that are peripheral to the major portion of a taxon’s range but are threatened with extirpation in California; or (c) are closely associated with a habitat that is declining in California at a significant rate (e.g. wetlands and riparian systems).

Vegetation Type Conversion (sometimes abbreviated as “conversion”). Over time, the vegetation community type can undergo change due to ecological succession, catastrophic removal (eg, wildfire), human-induced disturbance such as devegetation, or introduction of non-native species. Invasive non-natives can cause type conversion when they out-compete the native plant assemblage. At the extreme, native vegetation types are adversely converted to recalcitrant non-native trees, grasses, and other “weeds.” Type conversion is problematic because it is difficult to undo, and can lead to increased risk of wildfire and premature reburn, erosion, and loss of rare or endangered native biota due to habitat displacement.

¹ CDFW, *Special Plant and Animal Lists*, CDFW website (<https://www.dfg.ca.gov/wildlife/nongame/list.html>), 9/23/14.

Waters of the State. Defined more broadly than 'Waters of the United States,' 'Waters of the State' includes "any surface water or groundwater within the boundaries of the state" (Water Code §13050(e)), whether private or public, including saline waters and waters in both natural and artificial channels.

Waters of the United States. As defined by the federal Clean Water Act (CWA) and subsequent case law, Waters of the U.S. must exhibit a defined bed and bank, create an ordinary high water mark (OHWM), and play a meaningful role in interstate commerce to have a "nexus" to CWA regulation. The OHWM is defined by the US Army Corps of Engineers (USACE) as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." The definition of Waters of the US now broadly includes any tributaries that could make a substantial contribution to the biogeochemistry of a Waters of the US, while leaving out aquatic resources that are "isolated." Wetlands (see definition below) that are "adjacent" to a Waters of the US function to modify the hydrology and quality of receiving Waters, and therefore are not isolated. The USACE cannot regulate isolated waters, but will assert its jurisdiction as a permitting agency for any planned disturbance (i.e, emplacement of fill) within Waters of the US, their tributaries, and adjacent wetlands.

Wetlands. US Environmental Protection Agency (EPA) notes that for regulatory purposes under the CWA, the term wetlands means "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas." The practical delineation of wetland extents depends upon whether *wetland hydrology*, *hydric soil*, and a *prevalence of wetland-adapted plants* are present. For Mono County, these criteria are scientifically defined in USACE guidance for montane and arid west regions.

Wetland Hydrology: Generally, the presence of surface water, or shallow groundwater that rises to within about 16 inches (or less) of the soil surface, for a substantial part of the annual growing season for plants. In USACE's Arid West region, this period may be relatively brief, and its presence is in practice often inferred from the findings of hydric soils and wetland-adapted plants that could be maintained only under the conditions created by long-term (but only seasonally occurring) wetland hydrology.

Hydric Soils: Upper soil profiles having characteristics that indicate their development in conditions where soil oxygen is limited due to the presence of saturated soils for long periods during the growing season are labeled hydric. Rooting zone saturation, flooding, or ponding that lasts more than a few days during the growing season causes the development of anaerobic conditions. When combined with microbial activity in the soil, certain biogeochemical processes are promoted, such as the accumulation of organic matter and the reduction, translocation, or accumulation of iron and other reducible elements. These processes result in distinctive characteristics that persist in the soil during both wet and dry periods, making them particularly useful for identifying hydric soils in the field.

Prevalance of Wetland-Adapted Plants: More than 50% of the living vegetation is composed of species that are recognized as obligately or facultatively occurring in wetland areas. As of 2012, the USACE had identified more than 7,000 plant types that were indicative of wetlands.

4.4.2 OVERVIEW OF BASELINE BIOLOGICAL RESOURCES

4.4.2.1 Biological Resources in Mono County

Approximately 94% of the county land area is in public ownership primarily under the BLM and USFS (Humboldt-Toiyabe and Inyo national forests), and also the City of Los Angeles. The documents listed in 4.4.1 provide detailed information about the biological resources managed by these agencies, and the City of Los Angeles is nearing completion of a Habitat Conservation Plan (HCP) for their lands.

The biological resources of Mono County are strongly influenced by the region's topography and climate. The dominant topographic features of the area are the Sierra Nevada mountain range to the west and the White Mountains to the southeast. Precipitation varies greatly on a seasonal, annual and geographic basis, ranging from five inches per year in

the eastern part of the county to 30 inches near Mammoth Pass. Up to 65% to 75% of the precipitation falls as snow during winter months. Cold winters with below-freezing temperatures and hot, dry summers are typical of the region.

Mono County is on the boundary of two biogeographic provinces, the Great Basin and the Californian, and contains both mountain and desert plant series. Landcover and vegetation types have been mapped by the Land Cover Mapping and Monitoring Project (LCMMP, also known as CALVEG), a collaborative effort between the California Department of Fire and Forestry Protection (now Cal Fire) and the USFS (2005). The LCMMP used Landsat Thematic Mapper (TM) satellite imagery to map data with a minimum map unit of 2.5 acres and is the best available landscape-scale data at this time; however, uncertainties exist as to its accuracy for all vegetation types due to the interpretation of spectral imaging. Improved mapping is needed to verify results in outlying areas where development could occur.

The two most dominant landcover types, shrub (56.7% of the land area) and conifer forest/woodland (23.7%), constitute about 80% of Mono County's landcover. Other significant landcover types include barren, rock, snow (8.28%); herbaceous including meadows and grasslands (4.47%); and open water (3.07%). Land cover types constituting less than 1% of the land area include not yet mapped, agriculture, and urban/residential.

Mono County residents and businesses place a high value on the continued presence of a healthy and natural environment. The plant communities of the region provide habitats for a high diversity of resident and migratory wildlife, including birds, reptiles and amphibians, fish and invertebrates. No comprehensive biological survey of the entire county has been conducted; however, the (CNDDDB) catalogs known occurrences of species, plant communities, and habitats with special protection status. Absence of CNDDDB records for a particular area do not mean that none occur, merely that no occurrences have been reported. The specific status granted to each species may change over time. Most recently, the Sierra Nevada yellow-legged frog (*Rana sierra*) was listed as federally endangered and the Yosemite toad (*Anaxyrus canorus*) was listed as federally threatened in 2014, and the final critical habitat designation for both species is expected to be announced soon.

Figure 4.4-1 depicts reported occurrences of special status species recorded in the CNDDDB as of 2015. While not comprehensive, it is the best available landscape-scale data available at this time. The map does not include occurrences of plants without special species status that are listed by the CNPS. These plants, as well as a comprehensive discussion of all known special status species and habitats in the focused areas within and adjacent to communities where growth is more likely to occur, are summarized in this section and detailed in the *Biological Assessment: Unincorporated Communities of Mono County*, prepared by Dr. James Paulus and available in its entirety at <http://monocounty.ca.gov/planning/page/mono-county-general-plan-update>.

Plant communities may support characteristic assemblages of wildlife species, including special status species, or these species may use several habitats on a daily or seasonal basis. Although a particular habitat may be used only for a short period, that habitat may be crucial to the species' survival. The spring breeding habitat for the California gull at Mono Lake is an excellent example of this crucial dependence. Some specialist species, such as sage grouse, are restricted to a single habitat, while generalist species, such as the coyote, range over almost all habitats of the region.

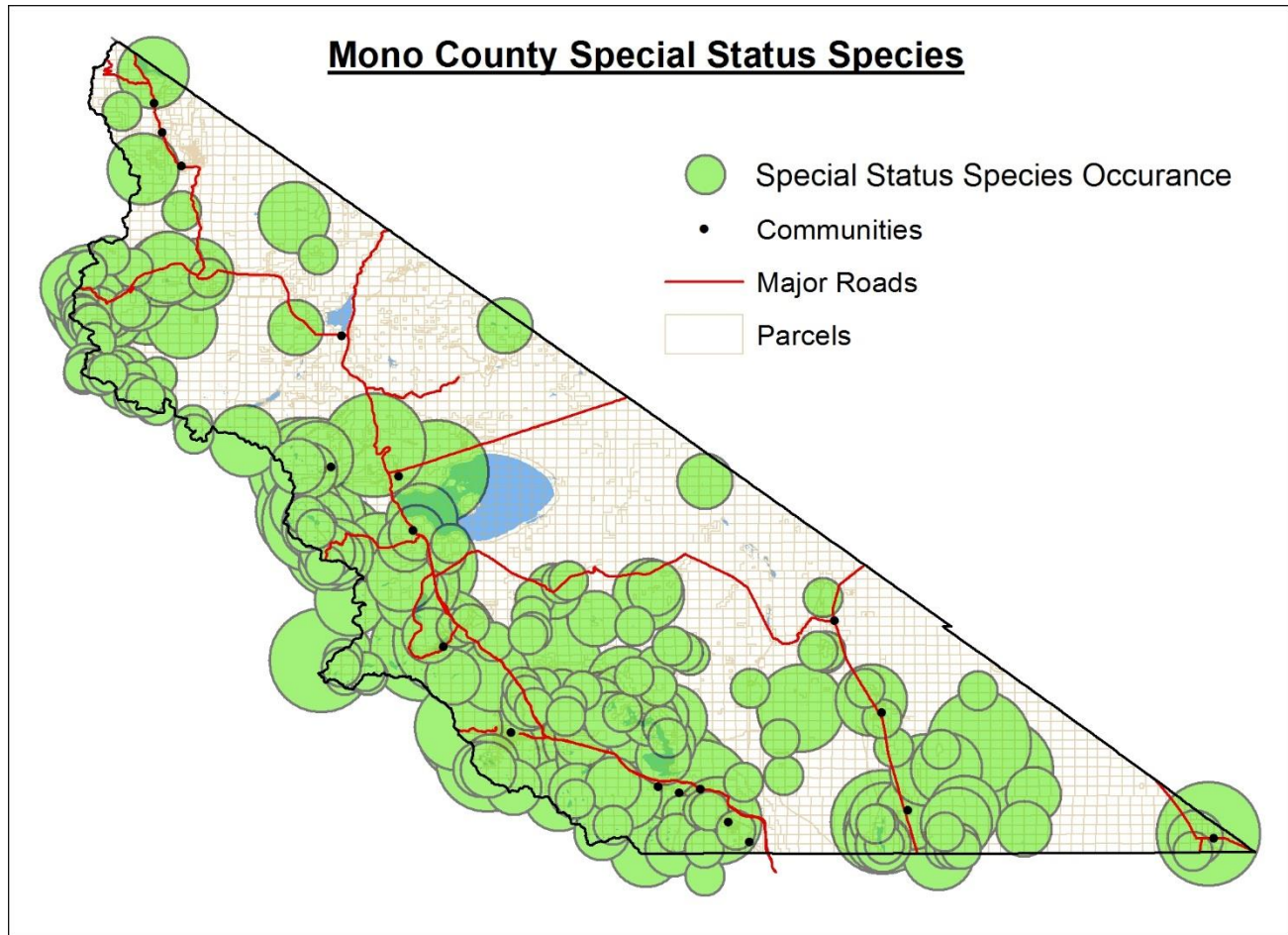
Although not designated as a species of concern in the CNDDDB, a decline in mule deer numbers in the mid- to late 1960s prompted CDFW to formulate a statewide management plan, followed by specific deer herd management plans. Seven of these management plans apply to the resident and migratory deer of Mono County, which are grouped into the Casa Diablo, Sherwin Grade, Buttermilk, Inyo/White Mountains, Mono Lake, East Walker, and West Walker herds.

The MEA details habitat needs and major threats to deer herds; of particular concern are the impacts of residential and recreational development to deer migration routes, such as the corridor between US 395 and the Sierra escarpment that connects Swall Meadows to Mammoth Lakes. Other factors of concern for sustaining healthy deer herds include dispersed recreational use by people, dogs and packstock; competition for grazing resources with livestock on seasonal ranges; an unknown level of competition with feral horses and burros (e.g., on the Truman Meadow winter range); hunting; and vehicle collisions. Other types of development, such as hydroelectric, geothermal energy, and logging projects affect deer herd populations depending on the specifics of the project, such as size, location, number of new roads, etc.

Another species not listed at the State or Federal level is the Bi-State Distinct Population Segment (DPS) of Greater Sage-Grouse (*Centrocercus urophasianus*), which is found at elevations ranging from 4,000 to over 9,000 feet in eastern

California and western Nevada. A detailed species status assessment by the US Fish and Wildlife Service (USFWS) is available at http://www.fws.gov/nevada/nv_species/documents/sage_grouse/species-report-service-2013a.pdf.

FIGURE 4.4-1: Mono County Special-Status Species.



In 2013, the USFWS proposed listing the Bi-State DPS under the Endangered Species Act as threatened because the decade of conservation effort by the Bi-State Local Area Working Group, Technical Advisory Committee and Executive Oversight Committee could not demonstrate certainty of effectiveness and certainty of implementation. These working groups, comprised of public agencies and private stakeholders, including Mono County, continued to refine the *Bi-State Action Plan for Conservation of the Greater Sage-Grouse Bi-State Distinct Population Segment* (2012, <http://www.fws.gov/greatersagegrouse/Bi-State/Bi-State%20Action%20Plan.pdf>) to identify specific projects and timelines, commitments from implementing agencies, and funding commitments of over \$40 million. In April 2015, the USFWS determined the conservation effort was able to meet the Policy for the Evaluation of Conservation Efforts (PECE) by demonstrating certainty of effectiveness and implementation, and therefore withdrew the proposed listing and designation of critical habitat (https://www.federalregister.gov/articles/2015/04/23/2015-09417/endangered-and-threatened-wildlife-and-plants-withdrawal-of-the-proposed-rule-to-list-the-bi-state?utm_campaign=subscription+mailing+list&utm_medium=email&utm_source=federalregister.gov). As participants in the Local Area Working Group that are charged with the conservation of Bi-State sage grouse and their habitat, Mono County has committed to adopt policies that will result in maintenance of existing high quality habitat wherever it occurs.

Plants and plant communities with special status are also cataloged in the CNDDb, and vegetation types of particular concern in Mono County include rangelands, riparian corridors, and wetlands. Concern over rangelands is focused on grazing management (e.g., appropriate timing intensity, duration of use, control of invasive species, exclusion from wetlands, etc.), in order to prevent range degradation and/or promote recovery, and to provide wildlife habitat for sagebrush obligate species such as the Bi-State DPS. Riparian and wetland vegetation types are treated in more detail in the

following section; however, roads and road crossings, urban development, channelization of streams, and overgrazing are the primary activities causing significant habitat degradation. In addition, dewatering and/or water diversion has caused loss of riparian vegetation, resulting in destabilized stream channels and waterway degradation. Wetlands and riparian plant communities occur extensively in Mono County, and often intersect the communities where development is most likely to occur.

Disturbance regimes and invasive species, pests, and pathogens also impact the health of plant and animal species in Mono County. Forest insect and disease activities have become more visible due to prolonged low-precipitation conditions that have exacerbated already drought-stressed trees, creating optimal conditions for bark beetle attacks (e.g., by bark and engraver beetles) and disease infection, and changes in climate. Native insects and diseases have not significantly changed their natural behaviors, but activity appears to have intensified. Forest pathogens are less conspicuous, and the Inyo National Forest notes heterobasidion root disease, Port-Orford-cedar root disease, and white pine blister rust as native disease pests (<http://www.fs.usda.gov/main/rs/forest-grasslandhealth/insects-diseases>).

The Inyo and Mono Counties Agricultural Commissioner's Office (IMCAC) is responsible for the control and eradication of noxious weeds which threaten local and state agricultural economies, native plants and wildlife (including threatened and endangered species), air and water quality, and property values. Decreased biodiversity and weakened native plant communities, poor forage and habitat conditions for wildlife, threats to water quality and supply, increased dust events, changes in fire regimes, and threats to recreation including access and aesthetics are just some of the direct impacts of invasive species.

Over 83,000 acres in Inyo and Mono counties were surveyed for invasive weed populations in 2008, and 24,000 acres were surveyed in Mono County in 2013-2014, including the areas most heavily subjected to human disturbance. Cheat grass (*Bromus tectorum*) is currently one of the most widespread invasive weeds, is highly adapted to disturbance events, and increases the average fire frequency in sagebrush vegetation. Other, typically agricultural, non-native plants have now appeared in partially urbanized areas and along the US 395 corridor, from where they can potentially invade remaining native habitats including wetlands, riparian corridors, and sagebrush scrub.

4.4.2.2 Biological Resources in Areas Surveyed for the Mono County RTP/General Plan Update

Working in close concert with local RPACs, the County Planning Department has completed Area Plans for most of the unincorporated communities in Mono County. All of these Plans anticipate population growth and some foresee increases in recreational facilities and tourist visits, which over time will have the potential to cause significant adverse impacts on biological resources. The various Area Plans all seek to minimize these unavoidable impacts through preservation and protection measures. The analysis detailed in §4.5.4 updates previously identified impacts of population growth and increased recreational usage, and adds issues that were identified in a recent biological assessment of current resource conditions (Paulus, 2015). Based upon this information it is possible to address specific impacts to sensitive species and habitats, ecosystem function, and overall landscape integrity that may be associated with implementation of the 2015 Mono County RTP/General Plan Update.

The current assessment of biological resources in Mono County, and the potential impacts upon these resources as a whole, is drawn from detailed assessments of all private, developable lands in 16 unincorporated Mono County communities (Table 4.4-1), totaling 11,718 mapped acres. Resources present at roads, facilities, and other human developments that define the 'area of influence' of these populations were also included. Within each town, the unit of mapping applied is the plant community as currently defined and classified by CDFW. This study thereby attained sufficient depth to infer specific potential impacts upon the County's aesthetically important and biologically diverse resources within the study areas, including potential impacts to occurring sensitive habitats and plant communities, and to each sensitive plant and wildlife species that has some potential to occur. Figure 4.4-2 shows the areas that were surveyed for the 2015 General Plan Update.

Biological Study Area Overview

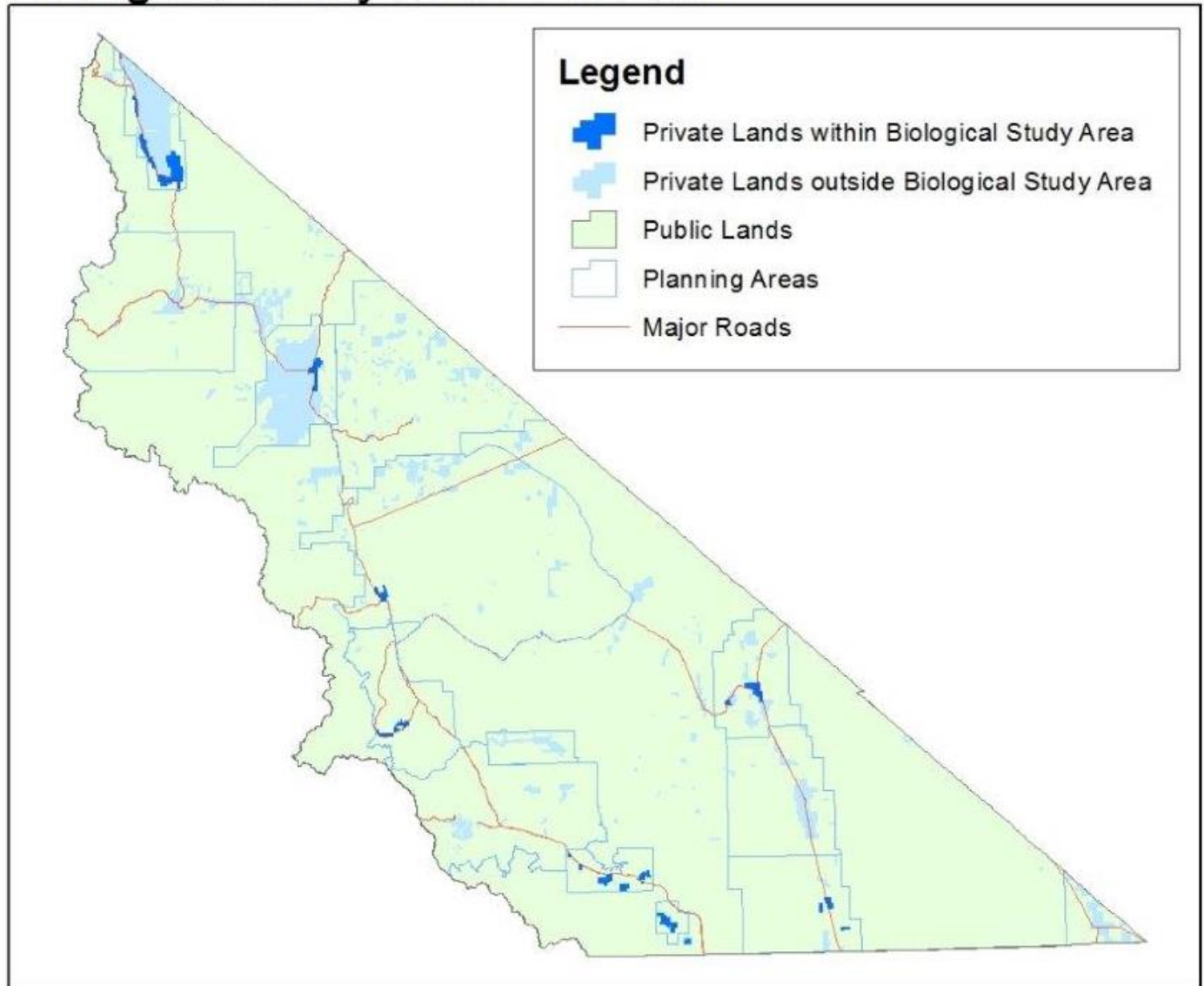


FIGURE 4.4-2: Biological Survey and Study Area

Detailed methods used in completion of the biological assessment are given in that report (please see <http://monocounty.ca.gov/planning/page/mono-county-general-plan-update>). The level of survey intensity was not designed to meet CDFW floristic or faunal survey rigor standards for determining rare species presence or absence, but did allow for assignment of alliance names and determination of whether CDFW status as "Sensitive" would apply for the occurring vegetation type in each mapped polygon. At the scale of mapping that was employed, and due to occasional access restrictions (93% of mapped polygons were visited for data collection in 2013-2014), some unobserved transitions of alliances within a uniform-appearing plant community type may have been omitted from the map (estimated to be no more than 5% of vegetated polygons greater than 1.5 acres). Within the context of this potential error, it is possible to delimit and list the vegetation types now remaining in each community, and reasonably assign to each a discreet set of potentially occurring sensitive plant and animal species.

**TABLE 4.4-1: Unincorporated Community Areas and Acreages
Studied in 2013-2014**

COMMUNITY	ACRES	COMMUNITY	ACRES
Chalfant Valley	802	McGee Creek	127
Benton	955	Long Valley	54
Benton Hot Springs	168	June Lake	852
Paradise	214	Lee Vining	642
Swall Meadows	1164	Bridgeport	1138
Tom's Place	442	Walker	2869
Little Round Valley	385	Coleville	962
Crowley Lake	620	Topaz	324

4.4.2.3 Plant Communities and Habitats

The diversity of plant communities that now exist in the areas where most development is expected to occur is noteworthy. Each of the 16 unincorporated community areas that were recently inventoried has its own highly heterogeneous set of vegetation types, and each retains substantial portions of one or more of those types. The 2013-2014 inventory resulted in 2,174 distinct plant community type polygons, as classified at the level of the dominant vegetation alliances present. Of the 11,718 acres mapped, 75% were classified as supporting naturally occurring vegetation types (Table 4.4-2), ranging from highly disturbed (but retaining some native cover) to highly native in character. Important plant community types are described in greater detail in §4.4.2.5.

TABLE 4.4-2: Vegetated Acreage Present in Mono County Communities*

Community	Undeveloped Acres	Community	Undeveloped Acres
Chalfant Valley	442 (55%)	McGee Creek	97 (76%)
Benton	723 (76%)	Long Valley	38 (70%)
Benton Hot Springs	148 (88%)	June Lake	698 (82%)
Paradise	161 (75%)	Lee Vining	449 (70%)
Swall Meadows	1057 (91%)	Bridgeport	788 (69%)
Tom's Place	387 (88%)	Walker	2175 (76%)
Little Round Valley	336 (87%)	Coleville	799 (83%)
Crowley Lake	438 (71%)	Topaz	231 (71%)

* Total acreage where vegetation cover was mapped and classified in each community.

Each of the 16 community areas now encompasses and also widely borders vegetation types ranging from the relatively mesic (wetland, riparian, aquatic) to xeric (upland scrub and forest) extremes of habitat wetness, and consequently each features a wide representation of regionally typical, common to rare floristic compositions, simple to complex plant community structures, and ecotonal variations. The habitats maintained by these plant communities often retain a high degree of "native character", as for the most part the vegetation is dominated by native plant species, and there remains some connectivity to surrounding landscapes. The surrounding landscapes generally are open public lands administered by the USFS or BLM. In contrast to the appearance of the surrounding rural landscape, the various wet, dry, native, and non-native vegetation types occurring within Mono County's unincorporated communities are typically arrayed in an intricate manner, providing fine-grained local habitat availability for the native flora and fauna, including sensitive species. For example, riparian plant community types account for 35% of all mapped polygons, but the average riparian

zone polygon size is only 1.5 acres, with most polygons (63%) having mapped areas of 1.0 acres or less and nearly all (99%) situated immediately adjacent to upland plant communities.

Ongoing habitat modifications associated with development have added seral alliances to the mix of plant communities. In unmodified environments, seral alliances would function to facilitate the recovery of native plant cover and provide other values for local wildlife following disturbance. The flush of new growth following wildfire in Mono County's shrublands, for example, makes these habitat patches highly productive resources for wildlife as the shrub canopy recovers. Invariably, occurrences of seral alliances in Mono County's unincorporated communities also reflect negative development-related modifications such as non-native plant introductions. Some of these non-native plants have furthermore widely invaded into even relatively undisturbed vegetation. In the all too common extreme, seral plant communities are now completely dominated by introduced plant species, while adjacent undisturbed areas are becoming weedy due to invasive plant species, causing all these areas to lose habitat values for native plants and wildlife. Catastrophic, naturally occurring disturbances such as wildfire and flooding have led to additional large-scale, presumably transitory plant community variation in Benton Hot Springs, Paradise, Lee Vining, Walker, Coleville, and Topaz. But there are indications that potentially permanent vegetation type conversions to weedy "ruderal" status may be in effect in portions of Bridgeport, Walker, Coleville, and Topaz (areas classified as Non-Native Grassland, 63 acres total), where revegetation (mainly following wildfire) now appears to be arrested at an earliest seral cover of sparse to dense weeds such as cheatgrass (*Bromus tectorum*) and tumble mustard (*Sisymbrium* spp.).

Local plant community diversity has become permanently decreased only where large terrain blocks have been converted to impervious surfaces or agricultural yards and fields. Permanent conversion from vegetated habitat to uses such as impervious surfaces (roads, buildings, and other facilities, 2,408 acres total), agricultural crops (388 acres), fenced pastures and irrigated meadows (198 acres), and reservoir lakebed (35 acres) is largely centralized in some communities (Benton Hot Springs, Paradise, Lee Vining, and Topaz). Others also have large areas where development has been more diffuse (especially Swall Meadows, Bridgeport, and Walker). Native plants and animals may be significantly impacted in the course of development even if large habitat blocks are not converted by the individual projects, due to habitat fragmentation. Centralized development is associated with overall less fragmentation of occurring plant communities; this pattern causes the creation of fewer isolating barriers that function to exclude colonization or use by plants and animals of otherwise available habitat. Avoiding plant community fragmentation in upland habitats would be particularly important for maintaining sensitive wildlife such as Bi-State greater sage grouse and mule deer, which require relatively large, uninterrupted expanses of sagebrush scrub. Avoiding new interruptions to the smaller riparian scrub, riparian forest, and adjacent meadow plant communities would benefit larger animals that need daily surface water, cover and food resources. Avoiding new fragmentation just as surely would be crucial to population maintenance for the less mobile sensitive wildlife that potentially occur, including mollusk, fish, amphibian, reptilian, and small mammalian species of aquatic and riparian habitats. As diffuse development incrementally expands and increases in density, impacts that cumulatively fragment plant community connectivity and access can best be minimized if new development-related ecological barriers are diligently identified and alternatives are sought on a project-level basis.

The degree of riparian plant community alteration is now often high at areas of settlement and development within Mono County. Development can be expected to further adversely impact the integrity of riparian plant communities (and some upland types as well), both within the towns themselves and at the scale of the hydrological systems they intercept. Given the historical tendencies for settlement and development to occur near riparian systems, a general loss of native character and ecological function might be expected as the current condition in most community areas. In this situation, native riparian plant communities would persist only as fragments of their former extent, isolated from similar vegetation types upstream and downstream, and possibly not accessible for use even by upland species. While relic populations may persist in such isolated habitat pockets for some time, habitat connectivity is considered essential for long-term species viability. In practice, however, habitat connectivity occurs only rarely. Native riparian vegetation occurrences, even those situated in fine-grained habitat arrangements of unincorporated community areas, generally remain accessible (at least marginally connected to the surrounding landscape) for use by wildlife that are attracted to, are able to pass through regularly, or are adapted to the environment as modified by the human habitation. Lengthy, corridor-like arrangements of primarily native plant community polygons that were mapped in 2013-2014 – including those representing corridors of adjacent riparian types – are taken as evidence that viable and sometimes relatively unimpeded movement pathways for regular use by wildlife now remain in all towns where perennial aquatic features

occur. However, this persistent function may be lost locally due to even one poorly sited project. Given the small average size of the marsh, meadow, riparian scrub, and riparian forest occurrences mapped in these areas, even small projects that intersect, cross through, or abut the riparian zone will have the potential to substantially impact individual occurrences of riparian vegetation. Like a chain that becomes useless if only one link is broken, new ecological barriers – generally, vegetation conversions or any constructs that are linear or functionally bisect any riparian plant community occurrence – will have some potential to cause significant indirect impact to species that depend upon overall connectivity within the hydrologic system.

As a rule, plant communities in developing areas are not completely analogous to their counterparts in the relatively undisturbed surrounding landscape. Growth has altered and will continue to alter the species composition, the habitat structure that is provided, and the benefits that can be derived from the presence of vegetation that has a high degree of native character. Unfortunately, these changes to the localized habitats of towns, roads, and outlying facilities can result in significant impacts upon biological resources at a regional scale. Common private property alterations that could cumulatively impact biological resources as well as the quality of the environment for humans include reduction of native cover (thinning), especially in the shrub canopy and in ecotonal areas, prominent invasions of non-native plant species, and modifications of the plant community structure in ways that can affect predator-prey interactions. Firebreak thinning and removal of hazardous fuel vegetation necessarily must result in loss of wildlife habitat, for example dead trees that are potentially used by cavity-nesters, or dense, uninterrupted shrublands that are potentially used by Bi-State greater sage grouse. Further loss of naturally occurring, protective levels of native shrub cover in Black Greasewood Scrub and other slow-growing shrubland types is associated with increased lofting of fugitive dust in Chalfant Valley and Benton. In Mono County's upland environments, non-native species that have proven to be highly invasive are plants that have lower utility to native species and also degrade the aesthetic appeal of the viewscape. Furthermore, cheatgrass and other densely growing ("weedy") non-native annuals increase the risk of unusually intense, destructive wildfire. The habitat is modified more insidiously as housing incrementally expands. Erecting tall structures in otherwise treeless plant communities can give predatory advantage to raptors and owls. Domestic pets participate in the local food web to varying extents as predators. Careless handling of trash and other deliberate and accidental wildlife feeding contribute to the overall carrying capacity of town habitats for adapted predators such as ravens and coyotes. Some predators – the most notable example being ravens, which were once considered relatively uncommon in Mono County – have greatly benefitted from subsidies in towns, along roads, and at facilities such as the landfill, and have increased their local populations. The presumably increasing effects that human communities will have on the predator-prey balance of the region presumably would have significant negative consequences for potentially sensitive prey species such as pygmy rabbit, Mt. Lyell shrew, amphibians, and birds.

4.4.2.4 Non-Native Plant Species

A total of 59 non-native plant species were detected within the 16 areas inventoried in 2013-14. Each species was recorded as "prominent" in one or more plant community types. On average, 15 non-native, weedy species were found in each unincorporated community. None are free of noxious weeds (Table 4.4-3). At a finer scale, none of the plant community types present in Mono County appears to be immune to invasion by introduced plant species, but specific occurrences of these types (< 5% of mapped polygons) do remain completely weed-free at this time. Very few non-native populations appear to be restricted entirely to single points of recent or frequent disturbance. Their abundance at ruderal settings is often great, and spread is clearly an ongoing process for most. Red brome, cheatgrass, tansy mustard, red-stem filaree, Russian thistle, tumble mustard, and to a lesser degree crested wheatgrass, horned smotherweed, summer cypress, clasping peppergrass, and cheese weed, are highly invasive species that also now occur widely in upland scrub and forest of the surrounding public lands. Cheatgrass alone has colonized tens of thousands of acres in Mono County. It has become pervasive along the length of the US 395 transportation corridor, and at wildfire scars.

The invasive annuals cheatgrass, tumble mustard, and Russian thistle have become the most widespread problem weeds in Mono County. Cheatgrass and tumble mustard readily attain densities that cause the risk of wildfire to be significantly increased. They can adversely shorten the fire return interval in scrub types such as Blackbrush Scrub and Big Sagebrush Scrub, and in some cases thwart the normal recovery to beneficial native plant cover. Like other weedy species of more limited contexts, cheatgrass, tumble mustard and Russian thistle widely fill pioneer niches that are available at any given time in town areas.

TABLE 4.4-3: Total number of non-native plant species observed in each unincorporated community in 2013-2014, with the presence/absence of a few particularly invasive species and the number of invasive non-native tree species noted

UNINCORPORATED COMMUNITY	Non-Native Species	cheatgrass	tumble mustard	Russian thistle	Kentucky bluegrass	Invasive tree species
Chalfant Valley	4			X		3
Benton	8			X		3
Benton Hot Springs	9	X		X		3
Paradise	6	X		X		2
Swall Meadows	11	X	X	X	X	1
Tom's Place	8	X	X	X	X	1
Little Round Valley	13	X	X	X	X	1
Crowley Lake	24	X	X	X	X	1
McGee Creek	12	X	X	X	X	0
Long Valley	12	X	X	X	X	1
June Lake	29	X	X	X	X	1
Lee Vining	13	X	X	X	X	1
Bridgeport	26	X	X	X	X	2
Walker	22	X	X	X	X	3
Coleville	25	X	X	X	X	2
Topaz	24	X	X	X	X	4

One or more of these three species are to be expected as first colonizers in every disturbed upland setting created by new development. All may quickly spread into relatively undisturbed stands of Big Sagebrush Scrub, Great Basin Mixed Scrub, Black Greasewood Scrub, Rubber Rabbitbrush Scrub, Mountain Mahogany Scrub, Pinyon-Juniper Woodland, and Jeffrey Pine Forest, or into drying soils of irrigated and riparian settings – if not already present there. In summary, cheatgrass, tumble mustard, and Russian thistle are now naturalized in and near Mono County's unincorporated communities, to the extent that their eradication has likely become impractical. Because proven controls (such as timed grazing and pre-emergent herbicides) are not feasible in the local communities, these areas will continue to be propagule sources for public lands of the local landscape, perhaps undermining controls that are attempted there. Pressing needs such as fire fuel reduction now provide a more appropriate basis for requiring project-related weed control, at least for these naturalized species. Eradication efforts targeting species of limited distributions, and enacting the project-specific requirement that no new species introductions result from disturbance (based upon a pre-project plant species inventory), would be more cost-effective as strategies to draw a limit on the adverse effects of non-native plants.

Many of the occurring non-native species, including all of the invasive tree species, are facultatively or obligately adapted to the area's wetland meadow and riparian habitat conditions (Table 4.4-4). These species have invaded to varying degrees into otherwise native wetland and riparian plant communities that persist within each town except Benton. Cheatgrass, horned smotherweed, sweetclover, Kentucky bluegrass, black locust, salt-cedar, Russian thistle, tumble mustard, Siberian elm, and to a lesser degree smooth brome, Canadian thistle, Bermuda grass, prickly lettuce, Timothy grass, common plantain, curly dock, yellow salsify and woolly mullein, are present in some combination at all occurrences of wetland and riparian plant community types. Cheatgrass, Kentucky bluegrass, Timothy grass, curly dock, yellow salsify, white clover, tamarisk, and black locust have also established widespread populations in relatively undisturbed wetland meadows and riparian scrub and forest vegetation of the surrounding public lands and City of Los Angeles-owned lands. Invasive trees are now present (and sometimes pervasive) at the lower elevation communities Chalfant Valley, Benton Hot Springs, Paradise, Swall Meadows, Walker, Coleville, and Topaz, and are also present in the recovering riparian vegetation at Lee Vining.

Some widely occurring non-native species have been deliberately introduced into otherwise native meadow environments in order to provide pasturage. These species are also prominent in meadow-like habitats maintained by irrigation. Within the County's unincorporated community areas, strong populations of white clover, along with Kentucky bluegrass, common timothy, smooth brome, intermediate wheatgrass, and other perennial grasses, are always present in some combination at occurrences of Wet Montane Meadow, Dry Montane Meadow, Creeping Wildrye Meadow, and Dry Alkaline Meadow. These historically planted perennial species will tend to persist and even co-dominate in naturally occurring meadows. But in the absence of irrigation, all would quickly disappear from the created meadow settings they now dominate. Within substantial areas of Crowley Lake, Bridgeport, Walker, Coleville, and Topaz, native saltgrass (*Distichlis spicata*) or creeping wildrye (*Elymus triticoides*) co-dominate in irrigated pastures; as these species are apparently well-adapted to livestock trampling and grazing. Any bordering meadows that naturally occur due to wetlands hydrology, including plant communities that would be considered Sensitive by CDFW, are therefore difficult to distinguish based on dominant plant species alone. Research in Bridgeport has documented the development of meadow-like ecological function also in long-irrigated pastures, further blurring the distinction. But not all invasive species have spread so widely. In contrast to species successfully introduced for pasturage, and the more pervasive upland annual weeds discussed above, many non-native species are locally represented only by populations that are relatively small and confined. These populations, especially when the species is perennial, are generally not naturalized to the extent that all hope for checking their spread is lost; conventional precautions that discourage spread, and implementing eradication as the standard for mitigation, will help to minimize the anticipated impacts of additional native plant population and habitat displacement caused by the currently increasing cast of non-native invaders.

TABLE 4.4-4: Non-native Plant Species that have Established some Prominence within one or more Mono County Town Areas

species	common name	habit ¹	wetland status ²	control
<i>Agrostis gigantea</i>	giant red-top grass	PG	fac. wetland (FACW)	C
<i>Agropyron cristatum</i>	crested wheatgrass	PG		E
<i>Artemisia biennis</i>	biennial sagewort	AH	fac. wetland (FACW)	E
<i>Atriplex micrantha</i>	Russian orache	AH		E
<i>Atriplex rosea</i>	tumbling orache	AH	fac. upland	E
<i>Bassia hyssopifolia</i>	horned smotherweed	AH	fac. wetland (FACW)	E – high
<i>Brachypodium distachyon</i>	purple false brome	AG		E
<i>Bromus inermis</i>	smooth brome	PG	fac. wetland (FAC)	C
<i>Bromus madritensis ssp. rubens</i>	red brome	AG	fac. upland	C
<i>Bromus tectorum</i>	cheatgrass	AG		C
<i>Centaurea stoebe ssp. micranthos</i> [†]	spotted knapweed	PH		E - high
<i>Chenopodium album</i>	white goosefoot	AH	fac. upland	C
<i>Cirsium arvense</i> [†]	Canadian thistle	PH	fac. wetland (FAC)	E
<i>Conrigia orientalis</i>	hare's ear	AH		E
<i>Cynodon dactylon</i>	Bermuda grass	PG	fac. upland	E – high
<i>Dactylis glomerata</i>	orchard grass	PG	fac. upland	E
<i>Descurainia sophia</i>	tansy mustard	AH		C
<i>Elaeagnus angustifolia</i>	Russian olive	T	fac. wetland (FAC)	E - high
<i>Elymus hispidus</i>	intermediate wheatgrass	PG		C
<i>Elymus repens</i> [†]	quack grass	PG	fac. wetland (FAC)	E
<i>Erodium cicutarium</i>	red-stem filaree	AH		C
<i>Halogeton glomeratus</i> [†]	common halogeton	PH		E – high
<i>Holcus lanatus</i>	woolly velvet grass	PG	fac. wetland (FAC)	E
<i>Kochia scoparia</i>	summer cypress	AH		E – high
<i>Lactuca serriola</i>	prickly lettuce	AH	fac. upland	C

<i>Lepidium appelianum</i>	globetop hoary cress	AH		E
<i>Lepidium chalapense</i> †	lens-pod hoary grass	PH	fac. upland	E
<i>Lepidium perfoliatum</i>	clasping peppergrass	AH	fac. upland	C
<i>Leucanthemum vulgare</i>	oxeye daisy	PH	facultative upland	E
<i>Malva parviflora</i>	cheese weed	AH		C
<i>Marrubium vulgare</i>	common horehound	PH	fac. upland	E
<i>Medicago sativa</i>	alfalfa	PH		E – high
<i>Melilotus albus</i>	white sweetclover	AH		C
<i>Melilotus officinalis</i>	yellow sweetclover	AH	fac. upland	C
<i>Mentha spicata</i>	common spearmint	PH	obligate wetland	E
<i>Nymphaea</i> sp.	waterlily	PH	obligate wetland	E
<i>Phleum pratense</i>	common Timothy grass	PG	fac. wetland (FAC)	C
<i>Plantago major</i>	common plantain	PH	fac. wetland (FAC)	C
<i>Poa palustris</i>	fowl bluegrass	PG	fac. wetland (FAC)	C
<i>Poa pratensis</i>	Kentucky bluegrass	PH	fac. wetland (FAC)	C
<i>Polygonum argyrocoleon</i>	Persian knotweed	AH		E
<i>Polygonum aviculare</i>	prostrate knotweed	AH	fac. wetland (FAC)	C
<i>Populus alba</i>	white poplar	T		E – high
<i>Robinia pseudoacacia</i>	common black locust	T	fac. upland	E – high
<i>Rumex crispus</i>	curly dock	PH	fac. wetland (FAC)	C
<i>Salsola tragus</i>	Russian thistle	AH	fac. upland	C
<i>Saponaria officinalis</i>	bouncing bet soapwort	PH	fac. upland	E – high
<i>Sisymbrium altissimum</i>	tumble mustard	AH	fac. upland	C
<i>Sisymbrium irio</i>	London rocket	AH		C
<i>Tamarix parviflora</i> †	common salt-cedar	T	fac. wetland (FACW)	E – high
<i>Taraxacum officinale</i>	common dandelion	PH	fac. upland	C
<i>Thlaspi arvense</i>	field pennycress	AH		C
<i>Torreyochloa erecta</i>	false manna grass	PG	obligate wetland	E
<i>Tragopogon dubius</i>	yellow salsify	PH		C
<i>Tribulus terrestris</i> †	common puncture vine	AH		C
<i>Trifolium repens</i>	common white clover	PH	fac. wetland (FAC)	C
<i>Ulmus pumila</i>	Siberian elm	T		E – high
<i>Verbascum thapsus</i>	woolly mullein	BH	fac. upland	C
<i>Vinca major</i>	periwinkle	PH		E – high

NOTE: Common names are assigned to each species (other common names may be used locally). † = species considered to be “noxious weeds” as defined in California Food and Agriculture Code Section 5004. (CDFA, 2010). Wetland indicator status is taken from USACE (2012). Key to habit and wetland status codes is given below. Control priority “high” is noted, and each species is categorized to be targeted as “eradicate” (E, requiring 0% presence after controls applied) or “control” (C, requiring reduced abundance after controls applied).

1. Key to growth habit codes: A-annual; G-grass; H-herb; P-perennial; S-Shrub; T-Tree.

2. Key to wetland status (USACE, 2012):

obligate wetland (OBL) - almost always (>99% probability) occurs in wetlands,

facultative wetland (FACW) - usually (66-99% probability) occurs in wetlands,

facultative (FAC) - equally likely to occur in wetlands or non-wetlands (34-66% probability of occurrence in wetlands),

facultative upland (FACU) - usually occurs in uplands, but occasionally (1-33% probability) occurs in wetlands.

Non-native trees are often chosen for landscaping use in windbreak and shadetree positions within Mono County's unincorporated communities. Most of these species are not prone to horticultural escape into the surrounding environment. However, the more highly adapted non-native trees Siberian elm, black locust, white poplar, Russian olive, and salt-cedar are widely invading Great Basin Riparian Forest, Willow Riparian Scrub, Water Birch Riparian Scrub, Creeping Wildrye Meadow, Dry Alkaline Meadow, and Dry Montane Meadow. Given these trees' potentially substantial water use, and their general incompatibility with native plants and impalatability to wildlife and insects, their competitive advantage and rapid growth to relatively great stature poses a risk of vegetation type conversion in all mesic habitats adjacent to housing in every unincorporated community of Mono County. At present, tree abundances within any typical property are relatively low, even for tamarisk, and distributions are often patchy rather than pervasive. These species and other perennials of limited distributions (also some annuals – see Table 4.4-4) are logical high-priority targets for eradication as part of mitigation-based enhancement projects in riparian forest, scrub, and meadow plant communities. To meet project-by-project prescriptive goals for eradication, potentially expensive post-control monitoring and reporting (with remediation if necessary) is unfortunately the only way to assure that success criteria are met, and that some reversal of the widespread and likely accelerating trend of new species introductions is being achieved.

4.4.2.5 Sensitive Plant Communities and Species

Sensitive vegetation types as currently recognized by CDFW are present in every unincorporated community, and sometimes are relatively prominent in the landscape. CNDDDB records and literature search results indicate that the sensitive plant communities Water Birch Riparian Scrub and Mono Pumice Flats occur in or near Mono County's towns. The plant community inventory completed within all privately owned lands in these towns found no occurrences of Mono Pumice Flats. Water Birch Riparian Scrub is present as three distinct alliances; one or more of these alliances were mapped within the extents of Paradise, Swall Meadows, Tom's Place, Crowley Lake, and McGee Creek, totaling 34 separate occurrences. Overall, the inventory documented 18 plant community types where alliances recognized as sensitive occur (Table 4.4-5), totalling 85 distinct sensitive alliance types that cover 1870 acres (22%) of privately owned lands in these 16 towns. The distribution of these acres, expressed as a percent of available, vegetated (undeveloped) acres, ranges from low values of 6% in Benton Hot Springs, Walker, and Topaz, to values greater than 40% in Tom's Place, Crowley Lake, McGee Creek, Long Valley, and Lee Vining. Tom's Place, which has to date accumulated only 55 acres of devegetated and developed lands, harbors 304 acres (79% of remaining acres) that are classified as sensitive plant communities.

Naturally occurring riparian zone and wetland vegetation types account for 30% of all sensitive plant community acres mapped in 2013-2014. Another 4% are desert sink habitats that support a prevalence of wetland-adapted species in Chalfant Valley, Benton and Bridgeport, and long-irrigated meadows supporting a prevalence of native wetland-adapted species in Bridgeport, Coleville, and Topaz comprise another 6%. The remaining 60% of all mapped sensitive plant community extents occur in upland habitats, primarily (87%) where bitterbrush (*Purshia tridentata*) is dominant in the shrub canopy. Within wetland and riparian areas, sensitive plant community avoidance and mitigation is likely to be enforced by existing CDFW code, according to their 'no net loss' policy. When such actions are effective, habitat connectivity and beneficial functions imparted by native riparian vegetation, such as streambed stabilization, attenuation of flooding, and habitat provision for diverse species of plants and animals that require shade, structure, and concealment, are also conserved. Preservation or enhancement of sensitive upland vegetation in substantial areas of Paradise, Swall Meadows, Tom's Place, Little Round Valley, Crowley Lake, McGee Creek, Long Valley, Lee Vining, and Walker, however, will only occur through private initiative or following recognition of their sensitive status by the County.

TABLE 4.4-5: Sensitive and Regionally Common Vegetation Types Observed in 16 Unincorporated Mono County Communities, 2013-2014

Plant Community	Acres Mapped (all towns)	Where Present	Number of Alliances	Sensitive Alliances (% of all acres)
Jeffrey Pine Forest	322	Swall Meadows, Tom's Place, Little Round Valley, June Lake	10 alliances, 1 Sensitive	54%

**TABLE 4.4-5: Sensitive and Regionally Common Vegetation Types Observed
in 16 Unincorporated Mono County Communities, 2013-2014**

Plant Community	Acres Mapped (all towns)	Where Present	Number of Alliances	Sensitive Alliances (% of all acres)
Lodgepole Pine Forest	20	June Lake only	4 alliances, none Sensitive	-
Aspen Forest	54	Little Round Valley, Crowley Lake, McGee Creek, June Lake, Lee Vining	7 alliances, all are Sensitive	100%
Sierran White Fir Forest	65	June Lake only	2 alliances, none Sensitive	-
Great Basin Riparian Forest	115	Benton Hot Springs, Tom's Place, Crowley Lake, McGee Creek, Long Valley, Walker, Coleville, Topaz	17 alliances, all are Sensitive	100%
Lodgepole Pine Riparian Forest	47	June Lake only	4 alliances, 1 Sensitive	19% (all in June Lake)
Aspen Riparian Forest	93	Little Round Valley, Crowley Lake, McGee Creek, June Lake, Lee Vining	9 alliances, all are Sensitive	100%
Willow Riparian Scrub	383	all except Benton Hot Springs and Paradise	33 alliances, 5 Sensitive	4%
Wild Rose Riparian Scrub	6	Chalfant Valley, Little Round Valley, Coleville	6 alliances, all are Sensitive	100%
Water Birch Riparian Scrub	80	Paradise, Swall Meadows, Tom's Place, Crowley Lake, McGee Creek	4 alliances, all are Sensitive	100%
Black Locust Riparian Woodland	3	Paradise only	1 alliance, none Sensitive	-
Great Basin Juniper Woodland	31	June Lake only	3 alliances, none Sensitive	-
Pinyon-Juniper Woodland	1047	Swall Meadows, Tom's Place, Little Round Valley, Crowley Lake, Bridgeport, Walker, Coleville, Topaz	11 alliances, none Sensitive	-
Mountain Mahogany Scrub	171	Tom's Place, Little Round Valley, Crowley Lake, June Lake, Lee Vining	4 alliances, none Sensitive	-
Mixed Montane Chaparral	165	Swall Meadows, Lee Vining	2 alliances, none Sensitive	-
Big Sagebrush Scrub	3483	all except Benton Hot Springs	30 alliances, none Sensitive	-
Great Basin Mixed Scrub	1143	Chalfant Valley, Benton Hot Springs, Swall Meadows, Tom's Place, Little Round Valley, Crowley Lake, McGee Creek, Long Valley, Lee Vining, Walker, Topaz	18 alliances, 12 Sensitive	68%
Rubber Rabbitbrush Scrub	392	Chalfant Valley, Benton, Benton Hot Springs, Paradise, Swall Meadows, Tom's Place, Crowley Lake, Bridgeport, Walker, Topaz	10 alliances, none Sensitive	-
High Desert Blackbrush Scrub	141	Paradise only	5 alliances, 1 Sensitive	4% (all in Paradise)

TABLE 4.4-5: Sensitive and Regionally Common Vegetation Types Observed in 16 Unincorporated Mono County Communities, 2013-2014				
Plant Community	Acres Mapped (all towns)	Where Present	Number of Alliances	Sensitive Alliances (% of all acres)
Desert Saltbush Scrub	16	Chalfant Valley, Benton	2 alliances, none Sensitive	-
Shadscale Scrub	66	Chalfant Valley only	2 alliances, none Sensitive	-
Black Greasewood Scrub	355	Chalfant Valley, Benton, Bridgeport	6 alliances, 4 Sensitive	63%
Silver Sagebrush Scrub	4	Little Round Valley only	1 alliance, 1 Sensitive	100%
Transmontane Alkaline Marsh	< 1	Chalfant Valley, Walker	2 alliances, 1 Sensitive	50% (Chalfant Valley)
Transmontane Freshwater Marsh	5	Benton Hot Springs only	1 alliance, none Sensitive	-
Montane Freshwater Marsh	36	Crowley Lake, McGee Creek, June Lake, Bridgeport	6 alliances, 1 Sensitive	6% (McGee Creek)
Wet Montane Meadow	64	Swall Meadows, Little Round Valley, Crowley Lake, Long Valley, June Lake, Bridgeport, Topaz	12 alliances, 1 Sensitive	4% (all in June Lake)
Wet Alkaline Meadow	5	Bridgeport only	1 alliance, none Sensitive	-
Creeping Wildrye Meadow	225	Benton Hot Springs, Swall Meadows, Little Round Valley, June Lake, Bridgeport, Walker, Coleville, Topaz	11 alliances, all are Sensitive	100%
Dry Montane Meadow	196	Swall Meadows, Little Round Valley, Crowley Lake, McGee Creek, Long Valley, June Lake, Coleville	10 alliances, 2 are Sensitive	41%
Dry Alkaline Meadow	90	Benton Hot Springs, Bridgeport	7 alliances, none Sensitive	-
Alkali Sacaton Grassland	3	Chalfant Valley, Benton Hot Springs	1 alliance, 1 Sensitive	100%
Non-Native Grassland	71	Bridgeport, Walker, Coleville, Topaz	3 alliances, none Sensitive	-

Where it is abundant and healthy in the shrub canopy, bitterbrush provides cover and browse for mule deer. Within landscape positions of migratory movements and overwintering, the presence of bitterbrush browse becomes critical (i.e., potentially limiting) to mule deer health and reproduction at the population level of the local herd. Bitterbrush-dominated stands of Great Basin Mixed Scrub and Jeffrey Pine Forest that intersect private lands between Paradise and Lee Vining may be considered critical to mule deer population maintenance (Round Valley Herd, Casa Diablo Herd) due to their well-documented, seasonal tradition of use extending to near-town habitats and even stand fragments that remain between houses. Further loss of carrying capacity for mule deer due to unavoidable devegetation, and to related cumulative stand fragmentation in critical browse areas, may be offset by mitigatory enhancement of existing stands – if these efforts occur in these same areas of high habitat value. The current extents of sensitive plant communities and the habitat values they provide can be locally maintained (i.e., “no net loss”) if revegetation prescriptions and larger range enhancement efforts are biased towards establishing and enhancing bitterbrush dominance.

Based upon the plant community types and habitats identified during the recent inventory, and a review of CNDDDB and local project-related literature, a total of 78 sensitive plant species, 3 sensitive bryophytes, and one sensitive lichen have some potential to occur within the areas where the bulk of future development is planned. Sensitive plant populations are in several cases known (currently or historically) from within these private properties, and some are known on immediately adjacent BLM, USFS, or LADWP-administered lands. Most are documented as occurring regionally rather than nearby, but these species may be present in town areas because they are regarded as adapted to one or more of the diverse physical environments that are available. Under the state ESA, the potentially occurring plant species Long Valley milkvetch, Mono milkvetch, and July gold are listed as Rare, and Owens Valley checkerbloom is listed as Endangered. None are listed or currently considered Candidates under the federal ESA. The local BLM (Bishop office) and USFS (Inyo National Forest) list 23 of these species as regionally sensitive, and CNPS includes all on their list of rare plants in California (Table 4.4-6).

TABLE 4.4-6: Summary Status for Sensitive Bryophyte, Lichen, and Vascular Plant Species that Potentially Occur in the Habitats Mapped at 16 Unincorporated Mono County Communities

Species	CNPS	Agencies	ESA	Habit
Peltigeraceae				
<i>Peltigera gowardii</i>	aquatic felt lichen	-	USFS = S	lichen
Bruchiaceae				
<i>Bruchia bolanderi</i>	Blandow's candel moss	2B	INF = S	moss
Orthotrichaceae				
<i>Orthotrichum shevockii</i>	Shevock's bristle moss	1B	BLM = S	crust
Thuidiaceae				
<i>Helodium blandowii</i>	Blandow's bog moss	2B	INF = S	moss
Ophioglossaceae				
<i>Botrychium ascendens</i>	upswept moonwort	2B	INF = S	PH
<i>Botrychium crenulatum</i>	scalloped moonwort	2B	INF = S	PH
<i>Botrychium lunaria</i>	common moonwort	2B	INF = S	PH
Apiaceae				
<i>Cymopterus globosus</i>	globose cymopterus	2B		PH
Asteraceae				
<i>Chaetadelpa wheeleri</i>	Wheeler's dune broom	2B		PH
<i>Crepis runcinata</i> ssp. <i>hallii</i>	Hall's meadow hawksbeard	2B		PH
<i>Ericameria albida</i>	white-flowered rabbitbrush	4		S
<i>Hulsea vestita</i> ssp. <i>inyoensis</i>	Inyo hulsea	2B		PH
<i>Hymenopappus filifolius</i> var. <i>nanus</i>	little cutleaf	2B		PH
<i>Sphaeromeria potentilloides</i> var. <i>nitrophila</i>	alkali tansy sage	2B		PH
<i>Tetradymia tetrameres</i>	dune horsebrush	2B		S
Boraginaceae				
<i>Cryptantha fendleri</i>	sand dune cryptantha	2B		AH
<i>Mertensia oblongifolia</i> var. <i>oblongifolia</i>	sagebrush bluebells	2B		PH
<i>Phacelia gymnoclada</i>	naked-stem phacelia	2B		AH
<i>Phacelia inyoensis</i>	Inyo phacelia	1B	BLM, USFS = S	AH
<i>Phacelia monoensis</i>	Mono phacelia	1B	BLM, USFS = S	AH
<i>Plagiobothrys parishii</i>	Parish' popcornflower	1B	USFS = S	AH
Brassicaceae				
<i>Boechera bodiensis</i>	Bodie Hills rockcress	1B	BLM, USFS = S	PH
<i>Boechera cobrensis</i>	Masonic Mountain rockcress	2B		PH
<i>Boechera dispar</i>	pinyon rockcress	2B		PH
<i>Boechera tularensis</i>	Tulare rockcress	1B	USFS = S	PH

<i>Cusickiella quadricostata</i>	Bodie Hills cusickiella	1B	BLM = S		PH
<i>Draba praealta</i>	tall draba	2B			PH
<i>Streptanthus oliganthus</i>	Masonic Mtn. jewelflower	1B	BLM, USFS = S		PH
<i>Thelypodium integrifolium</i> ssp. <i>complanatum</i>	foxtail thelypodium	2B			PH
<i>Thelypodium milleflorum</i>	many-flowered thelypodium	2B			PH
Caryophyllaceae					
<i>Minuartia stricta</i>	bog sandwort	2B			PH
<i>Silene oregana</i>	Oregon campion	2B			PH
Chenopodiaceae					
<i>Atriplex argentea</i> var. <i>hillmanii</i>	Hillman's silverscale	2B			AH
<i>Atriplex pusilla</i>	smooth saltbush	2B			AH
<i>Micromonolepis pusilla</i>	dwarf monolepis	2B			AH
Fabaceae					
<i>Astragalus argophyllus</i> var. <i>argophyllus</i>	silver-leaved milkvetch	2B	BLM = S		PH
<i>Astragalus johannis-howellii</i>	Long Valley milkvetch	1B	BLM, USFS = S	SR	PH
<i>Astragalus lemmonii</i>	Lemmon's milkvetch	1B	BLM, USFS = S		PH
<i>Astragalus monoensis</i>	Mono milkvetch	1B	BLM, USFS = S	SR	PH
<i>Astragalus oophorus</i> var. <i>lavinii</i>	Lavin's milkvetch	1B	BLM = S		PH
<i>Astragalus platytropis</i>	broad-keeled milkvetch	2B			PH
<i>Astragalus serenoii</i> var. <i>shockleyi</i>	Shockley's milkvetch	2B			PH
<i>Lupinus duranii</i>	Mono Lake lupine	1B	BLM, USFS = S		PH
<i>Lupinus gracilentus</i>	slender lupine	1B			PH
<i>Lupinus magnificus</i> var. <i>hesperius</i>	McGee Meadows lupine	1B	BLM = S		PH
<i>Lupinus pusillus</i> var. <i>intermontanus</i>	intermontane lupine	2B			AH
Loasaceae					
<i>Mentzelia inyoensis</i>	Inyo blazing star	1B			PH
<i>Mentzelia torreyi</i>	Torrey's blazing star	2B			PH
Malvaceae					
<i>Sidalcea covillei</i>	Owens Valley checkerbloom	1B	BLM = S	SE	PH
<i>Sidalcea multifida</i>	cutleaf checkerbloom	2B			PH
Montiaceae					
<i>Calyptidium pygmaeum</i>	pygmy pussypaws	1B	USFS = S		AH
Onagraceae					
<i>Epilobium howellii</i>	subalpine fireweed	4			PH
<i>Eremothera boothii</i> ssp. <i>boothii</i>	Booth hairy evening primrose	2B			AH
<i>Eremothera boothii</i> ssp. <i>intermedia</i>	Booth evening primrose	2B			AH
Orobanchaceae					
<i>Orobanche ludoviciana</i> var. <i>arenosa</i>	Suksdorf's broom-rape	2B			PH
<i>Pedicularis crenulata</i>	scalloped-leaved lousewort	2B			PH
Parnassiaceae					
<i>Parnassia parviflora</i>	small-fl'd. grass of Parnassus	2B			PH
Polemoniaceae					
<i>Aliciella triodon</i>	coyote gilia	2B			AH
Polygalaceae					
<i>Polygala intermontana</i>	intermountain milkwort	2B			S
<i>Polygala subspinoso</i>	spiny milkwort	2B			PH
Polygonaceae					
<i>Dedeckera eurekaensis</i>	July gold	1B	BLM, USFS = S	SR	S
<i>Eriogonum shockleyi</i> var. <i>shockleyi</i>	Shockley's buckwheat	4			PH
<i>Eriogonum nutans</i> var. <i>nutans</i>	Dugway's wild buckwheat	2B			AH

Ranunculaceae					
<i>Ranunculus hydrocharoides</i>	frog's-bit buttercup	2B			PH
Rosaceae					
<i>Ivesia kingii</i> var. <i>kingii</i>	alkali ivesia	2B	BLM = S		PH
Sarcobataceae					
<i>Sarcobatus baileyi</i>	Bailey's greasewood	2B			S
Solanaceae					
<i>Oryctes nevadensis</i>	Nevada oryctes	2B			AH
Violaceae					
<i>Viola purpurea</i> ssp. <i>aurea</i>	golden violet	2B			PH
Alliaceae					
<i>Allium atrorubens</i> var. <i>atrorubens</i>	Great Basin onion	2B			PH
Cyperaceae					
<i>Carex petasata</i>	Liddon's sedge	2B			PH
<i>Carex scirpoidea</i> ssp. <i>pseudoscirpoidea</i>	western single-spiked sedge	2B			PH
<i>Carex vallicola</i>	western valley sedge	2B			PH
Juncaginaceae					
<i>Triglochin palustris</i>	marsh arrow-grass	2B			PH
Liliaceae					
<i>Calochortus excavatus</i>	Owens Valley star-tulip	1B	BLM, USFS = S		PH
Poaceae					
<i>Agrostis humilis</i>	mountain bentgrass	2B			PG
<i>Glyceria grandis</i>	American manna grass	2B			PG
<i>Spartina gracilis</i>	alkali cordgrass	4			PG
<i>Sphenopholis obtusata</i>	prairie wedge grass	2B			PG
<i>Stipa divaricata</i>	small-flowered ricegrass	2B			PG
Potamogetonaceae					
<i>Potamogeton robbinsii</i>	Robbins' pondweed	2B			PH
<i>Stuckenia filiformis</i> ssp. <i>alpina</i>	slender-leaved pondweed	2B			PH
Themidaceae					
<i>Muilla coronata</i>	crowned muilla	4			PH

S = Sensitive status as listed by local agencies. SR = State Rare, SE = State Endangered.

1. Rank or status, by agency:

CNPS = California Native Plant Society listings (CNPS, 2014)

1B = rare and endangered in California and elsewhere

2B = rare, threatened or endangered in California, but more common elsewhere

4 = plants of limited distribution in California – watchlist species.

2. Key to growth habit codes: A-annual; G-grass; H-herb; P-perennial; S-shrub

There are no sensitive tree species that could occur as self-sustaining populations in the available habitats. The majority of sensitive plant species, especially perennial herbs and shrubs, would presumably have greater potential to occur where relic or fairly intact habitats with mostly native vegetation remains. These opportunities persist widely in each of the unincorporated communities that were studied. Recognizably native vegetation that can be classified into known common or sensitive types is now present on an average 75% of these private acres (Table 4.4-2). The habitats are often disturbed and weedy, and have become particularly fragmented in upland and upland/riparian transitional areas, yet in each community it is commonplace to find relatively undisturbed patches (more rarely substantial blocks) of good habitat that could hold sensitive plant populations. In addition, sensitive annuals such as Booth's evening primrose may rapidly colonize newly disturbed habitats, which are abundant in community areas. Sensitive herbs such as Great Basin onion and crowned muilla may persist in otherwise devegetated habitats as bulbs, and even some perennial herbs such as the State Rare Mono milkvetch are known to colonize regularly disturbed situations including roadsides. Species that exhibit a relatively ephemeral, annual growth may be present only in the seed bank in some years. It is concluded that there exists some potential for sensitive plant population occurrence wherever conversion has not been complete.

Avoidance during construction, as well as predictions that a viable population will remain after disturbance, can be best assured by considering the results of properly conducted botanical surveys, for example using the most recent CDFW guidance (CDFW, 2009).

The degree and extent of impacts to existing Sensitive plant populations will in practice be determined on a project-by-project basis. Consistent with the RTP/General Plan project objective to facilitate tiering, the plant community polygons mapped in 2013-2014 may be used at the project level to identify the occurring habitat types, including the species that could potentially occur and the areas where they may occur. This information can be used to plan comprehensive floristic surveys at the appropriate time(s) of year, and at sufficient intensity to distinguish common from sensitive species, in order to avoid reductions in habitat or plant abundance that would lead to a loss of population viability.

4.4.2.5 Riparian Habitats

As highly productive plant assemblages in an otherwise arid and somewhat monotonous landscape, riparian and wetland resources within Mono County's unincorporated communities beneficially provide integral functions that include providing habitat for wetland-dependent plants and animals. Riverine, wetland, and other aquatic habitats support a relatively great diversity of plant species per unit area, including sensitive taxa. Wildlife including sensitive mollusk, fish, amphibian, and mammal species, also mule deer, and nesting raptors and migratory birds may currently use the available habitats, which are listed and discussed for each town in the full Biological Report (<http://monocounty.ca.gov/planning/page/mono-county-general-plan-update>). In Swall Meadows, Crowley Lake, Long Valley, Bridgeport, Walker, Coleville, and Topaz, long-standing irrigation canals and ditches support a prevalence of native, wetlands-adapted poplars, willows, and roses that provide some of the best local examples of such habitats. Functionally, all intact riparian and wetland communities attenuate floods and trap sediments. The vegetation also facilitates biogeochemical transformations, and storage and release of limiting nutrients to downstream habitats. Where connection to the surrounding landscape is retained, the occurring alliance types generally appear to be in conditions sufficient to serve as repositories for rare biological resources. They may serve as sources for dispersal of sensitive species with scattered populations, such as wetland-obligate plants, springsnails, and meadow shrews. Avoidance of impacts that adversely affect riparian zone beneficial functions can best be accomplished by preserving the extents of riparian vegetation to the maximum extent possible. Avoiding and minimizing impacts to aquatic, wetland, and riparian resources will also, in the aggregate, enhance these functions' translation to opportunities for recreation, pastureage, and education.

Vegetation types that were identified within community riparian settings are regionally limited in extent; all are present only narrowly at surface waters over expansive areas of the Intermountain Floristic Zone, including the habitable areas of Mono County. Furthermore, historical settlement patterns here have been typical – near surface water. Habitation and recreational use thus have been and will continue to be focused within regionally uncommon to rare plant communities. Habitats that are maintained by these plant communities have historically been encroached upon by intense grazing and deliberate introductions of meadow grasses and other non-native species. Other routine practices that today cause potentially substantial disturbance include canopy thinning, removal of the shrub layer, and mowing or clearing of the herbaceous layer. Loss of riparian plant communities including sensitive types is unfortunately a state-wide trend. Remaining examples in Mono County's unincorporated community areas rarely bear a high degree of resemblance to nearby riparian zones on public lands in terms of plant community extent, composition, and structure. It is reasonable to assume that some former ecological functions have been lost also. Nevertheless, 59 of the 129 occurring alliances mapped in these areas, representing 44% (572 total acres) of the riparian Montane Freshwater Marsh, Transmontane Alkaline Marsh, Wet Montane Meadow, Creeping Wildrye Meadow, Dry Montane Meadow, Alkali Sacaton Meadow, Silver Sagebrush Scrub, Wild Rose Riparian Scrub, Willow Riparian Scrub, Water Birch Riparian Scrub, Aspen Riparian Forest, Lodgepole Pine Riparian Forest, and Great Basin Riparian Forest community extents, would be recognized as Sensitive by the State of California (CDFW, 2014).

The 2013-2014 resource assessment found that historical and ongoing disturbance has generally altered species assemblages, including most notably through introductions of locally adapted non-native herbs and trees, or has in some cases directly removed a substantial portion of the habitat, especially at the transitional areas between riparian and xeric portions of the landscape. Transitional areas have been often shown to support the most productive and diverse biological resources associated with native hydrological systems. But riparian corridors in the unincorporated community areas of Mono County areas usually do retain other important aspects of native character, including

relatively dense cover and native plant dominance. Importantly, the disturbance pattern has not been associated generally with a high degree of habitat fragmentation, or loss of connectivity that isolates or prevents the use of large blocks of habitat by a locally representative diversity of species. Mapping of riparian zones resulted in long, corridor-like, and connected polygons that imply integrity for wildlife habitation, movements, foraging, and dispersal. Unlike more highly populated areas of California, the degree of acreage loss and functional loss at streams that intersect Mono County town areas is generally slight at this time. In all, riparian plant communities (a total 1306 undeveloped acres were mapped) now comprise 15% of all acres in the 16 inventoried communities.

New development will likely require that additional water resources be drawn from surface streams and groundwater basins for human consumption in an already water-limited natural environment. The unavoidable, potentially adverse impacts of this upon riparian resources may be minimized if regulatory oversight is empowered to maintain the extents and ecological functions of vegetation that is maintained by surface streams and shallow groundwater. A policy of “no net loss” applied to maintaining the extents of wetland and riparian plant communities, and also preserving habitat connectivity as a priority, would go far towards maintaining the current level of function provided. Mitigatory enhancement of degraded (preferably on-site or adjacent) habitats may be an effective way to offset unavoidable, incremental encroachments for the purposes of land development. Given the current development pattern has most impacted transitional areas between riparian and upland habitats, a policy requiring buffering of the outermost extents of any riverine, wetland, or other aquatic, native vegetation type could also help to satisfy the County’s General Plan directive to protect the area’s most valuable natural resources.

4.5.2.6 Wildlife Resources

Sensitive wildlife species, as used in this analysis, meet the definitions of rare or endangered under §15380 of the CEQA Guidelines, are considered candidates for state or federal listing as threatened or endangered, or are listed by local agencies as locally rare. Sensitive wildlife species are known, or have some likelihood, to reside, pass or migrate through, forage, roost, den, breed, nest, or raise their young in habitats remaining at or created by development. Some wildlife may rely on habitats within communities for a critical stage of their lives, for example a long-lived bald eagle pair that nests in a large pine among existing developments in June Lake. Based upon a review of available information sources, 41 species with recognized special status have some potential to occur within the 16 Mono County town study areas (Table 4.4-6). Mule deer (*Odocoileus hemionus*) are also treated as sensitive in this analysis, due to their prominence as harvest species protected by CDFW code. Furthermore, it is likely that CDFW jurisdiction within riparian habitats will extend to seeking protection for nesting birds generally, as most nesting species in this region are protected by the Migratory Bird Treaty Act. This protection would apply during the period between the onset of breeding and fledging of the young, which is herein defined as March 1 through September 30 in Chalfant Valley, Benton, Benton Hot Springs, Paradise, Walker, Coleville and Topaz, or April 1 through August 31 in communities between Swall Meadows and Bridgeport.

The CDFW ranks sensitive wildlife according to Heritage Program standards that reflect the degree of imperilment the species faces within California. CDFW may additionally assign Species of Special Concern status for declining species that are considered to be in greatest need of conservation (Table 4.4-6). Owens tui chub, Sierra Nevada yellow-legged frog, and willow flycatcher (*E. t. ssp. extimus*) are listed under the federal ESA as Endangered. Greater sage grouse (Bi-State DPS) was proposed under the federal ESA to be listed as Threatened, and the proposal was withdrawn in 2015. Owens tui chub, willow flycatcher (all ssp.), and bald eagle are listed under the State of California’s ESA as Endangered. Sierra Nevada yellow-legged frog, Swainson’s hawk, bank swallow, and Sierra Nevada red fox are State listed as Threatened. Fisher (West Coast DPS) is a Candidate species for listing as threatened under both federal and state ESA law. Critical Habitat designations pursuant to the ESA for listed species in Mono County do not currently intersect any of the 16 unincorporated communities, or any County roads or other facilities.

Some sensitive wildlife species are highly restricted with regard to habitat requirements for all of their life cycles, or for critical stages such as reproduction. Potentially occurring sensitive mollusk, fish, amphibian, and reptilian species are associated with perennial surface waters or terrestrial habitats that are perennially moist. If any of these species occur, their populations and even encounters with individuals will always be restricted to the extents of the available wetland and riparian plant communities (Table 4.4-5). Policies that can effectively lead to the avoidance and minimization of impacts to sensitive wildlife must be worded specifically with regard to the habitat requirements of each species. For example, birds and bats range widely to access needed resources, but it is possible to delimit specific microhabitat

requirements that must be met for birds to breed and nest and for bats to roost or establish rookery colonies. Birds typically choose definable, structurally limited habitats for nesting. Similarly, mule deer choose vegetation that provides adequate cover for fawn rearing, and in town areas must use limited routes for their daily access to surface water. Some sensitive bats might roost in abandoned buildings set for demolition, while others potentially will roost in culverts. The locations of specific vegetation types that may be suitable for current use and ongoing population maintenance of each potentially occurring sensitive wildlife species are given for each unincorporated community area in the full Biological Assessment (please see <http://monocounty.ca.gov/planning/page/mono-county-general-plan-update>).

On the other hand, relatively large and mobile sensitive mammals such as western white-tailed jackrabbit, American badger, Sierra Nevada red fox, and mule deer tend to range more widely across habitat type boundaries. Mule deer migration is a very large-scaled phenomena, which notably intersects the communities of Paradise, Swall Meadows, Tom's Place, Little Round Valley, Crowley Lake, McGee Creek, Long Valley, June Lake, and Lee Vining. Bi-State greater sage grouse can move several miles through sagebrush scrub and meadow habitats to complete habitual nesting, chick-rearing, and overwintering movements. The normal movements of large mammals and birds impart higher probabilities of encountering roads, domestic pets, and areas where predator presence and predatory success have been significantly increased by human activities. Avoiding new significant impacts to the population viability of highly mobile wildlife will depend in large part on not allowing the emplacement of new passive and lethal barriers to these ranging movements. Table 4.4-7 summarizes sensitive wildlife species that may occur in habitats mapped for the 2015 General Plan Update.

TABLE 4.4-7: Sensitive wildlife species that potentially occur in habitats mapped at 16 Mono County Communities

TAXONOMIC GROUP	SPECIES	STATE RANKING	AGENCIES	ESA
Mollusks				
	<i>Pyrgulopsis aardahli</i>	Benton Valley springsnail	S ₁	
	<i>Pyrgulopsis owensensis</i>	Owens Valley springsnail	S ₁ S ₂	SSC, USFS = S
	<i>Pyrgulopsis wongi</i>	Wong's springsnail	S ₁ S ₂	USFS = S
Fish				
	<i>Catostomus fumeiventris</i>	Owens sucker	S ₃	SSC
	<i>Rhinichthys osculus</i> ssp. 2	Owens speckled dace	S ₁ S ₂	SSC
	<i>Rhinichthys osculus</i> ssp. 5	Long Valley speckled dace	S ₁	BLM = S
	<i>Siphateles bicolor snyderi</i>	Owens tui chub	S ₁	SE, FE
Amphibians				
	<i>Hydromantes platycephalus</i>	Mount Lyell salamander	S ₃	SSC
	<i>Lithobates pipiens</i>	northern leopard frog	S ₂	SSC, USFS = S
	<i>Rana sierrae</i>	Sierra Nevada yellow-legged frog	S ₁	ST, FE
Reptiles				
	<i>Elgaria panamintina</i>	Panamint alligator lizard	S ₁ S ₂	SSC, BLM = S, USFS = S
Birds				
	<i>Accipiter gentilis</i> (nesting)	northern goshawk	S ₃	SSC, BLM = S, USFS = S
	<i>Aquila chrysaetos</i> (nesting)	golden eagle	S ₃	FP, BLM = S, USFWS = BCC
	<i>Asio otus</i> (nesting)	long-eared owl	S ₂	SSC
	<i>Buteo swainsoni</i> (nesting)	Swainson's hawk	S ₂	BLM = S, USFS = S ST
	<i>Centrocercus urophasianus</i> Bi-State DPS (nesting, leks)	greater sage grouse	S ₃	SSC FT proposed
	<i>Circus cyaneus</i> (nesting)	northern harrier	S ₃	SSC
	<i>Dendroica petechia breweri</i> (nesting)	yellow warbler	S ₃	SSC, USFWS = BCC
	<i>Empidonax traillii</i> (nesting)	willow flycatcher	S ₁	SE, FE
	<i>Falco mexicanus</i> (nesting)	prairie falcon	S ₃	SW, USFWS = BCC
	<i>Haliaeetus leucocephalus</i> (nesting)	bald eagle	S ₂	FP, USFS = S SE
	<i>Pandion haliaetus</i> (nesting)	osprey	S ₃	SW
	<i>Riparia riparia</i> (nesting)	bank swallow	S ₂ S ₃	BLM = S ST
	<i>Spizella breweri</i> (nesting)	Brewer's sparrow	S ₃	USFWS = BCC
	<i>Xanthocephalus</i>	yellow-headed blackbird	S ₃ S ₄	SSC

<i>xanthocephalus</i> (nesting)				
Mammals				
<i>Antrozous pallidus</i>	pallid bat	S ₃	SSC, BLM = S, USFS = S	
<i>Aplodontia rufa californica</i>	Sierra Nevada mountain beaver	S ₂ S ₃	SSC	
<i>Brachylagus idahoensis</i>	pygmy rabbit	S ₃	SSC, BLM = S	
<i>Euderma maculatum</i>	spotted bat	S ₂ S ₃	SSC, BLM = S	
<i>Eumops perotis californicus</i>	western mastiff bat	S ₃ ?	SSC, BLM = S	
<i>Lepus townsendii townsendii</i>	western white-tailed jackrabbit	S ₂	SSC	
<i>Martes americana sierrae</i>	Sierra marten	S ₃ S ₄	USFS = S	
<i>Martes pennanti</i> West Coast DPS	fisher	S ₂ S ₃	SSC	STC, FTC
<i>Microtus californicus vallicola</i>	Owens Valley vole	S ₁	SSC, BLM = S	
<i>Myotis ciliolabrum</i>	western small-footed myotis (bat)	S ₂ S ₃	BLM = S	
<i>Myotis evotis</i>	long-eared myotis	S ₄ ?	BLM = S	
<i>Myotis thysanodes</i>	fringed myotis	S ₄	BLM = S	
<i>Myotis yumanensis</i>	Yuma myotis	S ₄ ?	BLM = S	
<i>Sorex lyelli</i>	Mount Lyell shrew	S ₂ S ₃	SSC	
<i>Taxidea taxus</i>	American badger	S ₄	SSC	
<i>Vulpes vulpes necator</i>	Sierra Nevada red fox	S ₁	USFS = S	ST
State ranking - CNDDDB State Conservation Ranking (CDFW, 2014); ? indicates CNDDDB uncertainty in ranking.				
S ₁ is Critically Imperiled: often 5 or fewer populations, or steep rate of decline,				
S ₂ is Imperiled: often 20 or fewer populations, steep decline, or very restricted range,				
S ₃ is Vulnerable: often 80 or fewer populations, declining or restricted range,				
S ₄ is Apparently Secure: uncommon but not rare in California				
Agencies:				
SSC – CDFW Species of Special Concern; W – CDFW Watchlist Species				
BCC – USFWS Birds of Conservation Concern				
BLM – Sensitive list (Bishop Field Office)				
USFS – Sensitive list (Inyo National Forest, Humboldt-Toiyabe National Forest)				
ESA:				
ST – State Threatened				
SE – State Endangered				
STC – Candidate for State Threatened				
FT – Federal Threatened				
FE – Federal Endangered				
FTC – Candidate for Federal Threatened				

Threats to individuals from collisions, interactions with pets, and increased predation are habitat alterations that are likely to remain more or less permanently in effect with in-filling development. Temporary impacts related to development, however, can be just as destructive to population maintenance for wildlife, including sensitive species. During construction, new food sources such as carelessly stored trash can locally concentrate predators. Workers' pets, if allowed to roam freely, can add to predatory pressure. Noise, lighting, and sudden increases in activity and mechanized traffic can disrupt normal behaviours, for example causing nest abandonment. Temporary construction fencing can block normal movements, and may redirect wildlife to enter areas of greater risk for collisions or predation. The timing of new construction, or of substantial periodic disturbance due to maintenance of roads and other facilities, can be used to predict whether new significant adverse effects may be created. Temporary impacts to migratory mule deer and greater sage grouse may be avoided with assurance by timing the most disturbing activities to avoid interfering with their major, generally predictable movements. Temporary impacts to nesting by Bi-State greater sage grouse and other birds can similarly be avoided, as their periods of breeding and nesting are limited (Table 4.4-8).

TABLE 4.4-8: Avoidance of Temporary Impacts to Migrating Mule Deer, and Breeding and Nesting Migratory Birds and Sage Grouse through Timing of the Planned Disturbance			
Sensitive wildlife	Potentially Occur in	Seasonal Uses	Period

mule deer	Paradise, Swall Meadows, Tom's Place, Little Round Valley, Crowley Lake, McGee Creek, Long Valley, June Lake, Lee Vining	migrating, temporary holding	spring: April 1 – June 15 fall: Sept. 15 – Dec. 1
	Paradise, Swall Meadows	overwintering	Nov. 15 – April 15
greater sage grouse	none	breeding	March 1 – May 31
	Little Round Valley, Crowley Lake, McGee Creek, Long Valley, June Lake, Lee Vining, Bridgeport, Walker, Coleville, Topaz	dispersing, nesting, early brood-raising	May 1 – June 31
		migrating, late brood-raising	July 1 – Sept. 30
		overwintering	Oct. 1 – Feb. 29
nesting birds	Chalfant Valley, Benton, Benton Hot Springs, Paradise, Walker, Coleville, Topaz	breeding, nesting	March 1 – Sept. 30
	Swall Meadows, Tom's Place, Little Round Valley, Crowley Lake, McGee Creek, Long Valley, June Lake, Lee Vining, Bridgeport	breeding, nesting	April 1 – August 31

Community areas along the base of the Sierra Nevada experience spikes in mule deer use in the spring and fall. The arrival of spring migratory mule deer varies between April to early May, the timing depending on snowfall and plant phenology, then peaks in late May to early June, and is completed by mid-June. Fall migration begins in late September or early October, often prior to the first snowfall, and is completed by the end of November. Much of the mass movement actually occurs at night. Potential impacts to survivorship and fecundity that could affect mule deer when they enter areas of human habitation include reduction of critical browse and vehicle collisions. Bi-State greater sage grouse may occur as more or less year-long residents, while others migrate to reach distant brood-rearing and overwintering habitats. Areas of seasonal use are known to intersect Crowley Lake, McGee Creek, Long Valley, and Walker, and there is relatively marginal potential for presence in the remaining sagebrush-dominated and meadow habitats of Little Round Valley, June Lake, Lee Vining, Coleville, and Topaz during the normal brood-rearing period. For other birds, removing or pruning of vegetation during the regional period of breeding and nesting (Table 4.4-8), and new noise and activity associated with construction during this period, have some potential to destroy nests or negatively influence the nest success of birds protected by the Migratory Bird Treaty Act and federal or state ESA designations, unless surveys to identify active nests and project-specific mitigations such as nest buffering are implemented.

A total of 2,445 acres vegetation dominated by bitterbrush (*Purshia tridentata*), or 28% of all undeveloped acreage now remaining within the 16 unincorporated communities of Mono County, remains more or less available for use by mule deer for migration and rearing of fawns. Communities such as Paradise, Swall Meadows, Tom's Place, Little Round Valley, Crowley Lake, McGee Creek, and Long Valley will progressively occupy or isolate in-town locations of substantial water, riparian forage and critical bitterbrush browse resources for migrating deer. Paradise and Swall Meadows are also within the longer-term winter holding range of the Round Valley herd. Concentrated deer use and the inflexibility of their migratory behavior in these areas can combine to exacerbate browse depletion to below what is needed to sustain the current population and maintain doe health for successful fawning. US and many other roads intersect these high use areas, leading to a substantial number of collisions. Recent mule deer herd size trends have raised concerns that the local carrying capacity has already been significantly reduced. Elsewhere, deer of the West Walker Herd in Antelope Valley use available habitat in Walker, Coleville, and Topaz as winter range during the November 1 to April 30 period. Dense Big Sagebrush Scrub and Great Basin Mixed Scrub adjacent to Antelope Valley between US 395 and the Sierra Nevada to the west was once considered critical as migratory and winter holding habitat, but loss of this cover has now forced behavioral change that has presumably significantly reduced deer presence there and increased their

use of available in-town and agricultural zone resources. Reversal of recent herd trends can be addressed at the level of individual animal mortality by the outcomes of effective policies that would reduce the incidence of collisions. At the more general level of habitat carrying capacity for deer, it is apparent that encouragement of bitterbrush will present the most effective opportunity for herd increases.

Large expanses of sagebrush scrub are required to sustain greater sage grouse (Bi-State DPS) populations. But new roads, fences, and aboveground transmission pole lines will contribute to the ongoing fragmentation of sagebrush habitat in Mono County. Compared with the already compromised areas of the County's unincorporated communities, future exurban developments will contribute disproportionately to the degree that fragmentation will become limiting to the viability of greater sage grouse populations. Transportation and communication uses of community residents inescapably must also extend out into the remaining sagebrush habitat for grouse, in the form of roads, exclusion fencing, and towers. The landfill in southern Mono County is a noted, specific example of how the communities' areas of influence reach out to affect greater sage grouse. In addition to producing noise, traffic, and fencing deterrents to grouse habitat use, the landfill also serves as a food subsidy for common ravens (*Corvus corax*). More generally, refuse and road-killed animals tend to subsidize raven populations, and also omnivorous coyote (*Canis latrans*). These and other threats have been recognized and in some cases addressed by multi-agency groups seeking to avoid federal ESA listing for the DPS. The County could within its authority adopt the best available, most thoroughly analyzed strategy for DPS conservation at large (the 2012 Bi-State Action Plan), and implement whenever possible the suggested impact avoidance and minimization measures. Many Action Plan measures have been tried at a scale sufficient to demonstrate they are effective to help mitigate the adverse effects of existing roads and road maintenance including predator subsidies, new noise, and grouse collision with vehicles and fencing. Potential impacts from new communications facilities could be similarly addressed, including avoidance of new perching and nesting sites for grouse predators.

4.4.2.7 Landscape Position of the Communities Studied

Study of the biological resources at 16 unincorporated community areas of Mono County yielded resource maps at the level of the plant community alliance, which are suitable for query using GIS when project-specific identification of potential impacts to these resources is needed. Emerging from these data, each of the 16 communities studied has specific sets of potentially affected biological resources, potential issues, and reasonable solutions, as delimited below (see §4.5.4 "Impacts and Mitigation Measures"). Also, each has more general, notable characteristics with regard to landscape position, the knowledge of which may assist in prioritizing county funding and resources (Table 4.4-9).

TABLE 4.4-9: Notable Characteristics of 16 Unincorporated Communities Studied in 2013-2014			
PLANT COMMUNITY	FEATURE	PLANT COMMUNITY	FEATURE
Chalfant Valley	Desert pavement and vegetation that is among the most weed-free of the areas studied maintain control of fugitive dust emissions until disturbed. Most sensitive species potential exists at springs near the south edge of town.	McGee Creek and Long Valley	McGee Creek and springs at Long Valley support diverse riparian communities that are embedded in large blocks of upland scrub, and are connected to wetlands at the nearby Crowley Reservoir. Use by wildlife including greater sage grouse and migrating mule deer may be limited by adjacent US 395 and power line barriers.
Benton	Denuded habitats are a source of fugitive dust emissions; recovery may require sustained effort. Bottomlands plant communities are CDFW Sensitive types. All surface waters are ephemeral.		
Benton Hot Springs	Plant communities supported at the sources of artesian flows are highly disturbed, but the outflows support an extensive array of sensitive wetlands. Sensitive plant and animal populations are threatened by mechanical disturbance and groundwater extraction.	June Lake	The community encompasses Reversed Creek along much of its length, yet riparian and springfed habitats remain largely intact, including regionally rare 'fen-forest' stands. The potential for habitat use by wildlife including sensitive species remains high.
Paradise	Increased fire risk is being created through large-scale invasion by naturalized, non-native grasses and herbs. Wintering mule deer	Lee Vining	Development and recent wildfire has displaced or converted much of the vegetation of the mainly upland habitats.

	survival and reproduction depends in part upon the maintenance of native browse.		Weeds are pervasive. Lee Vining Creek's riparian vegetation is recovering strongly from decades of stream dewatering.
Swall Meadows	The transitional landscape (high desert – lower montane) supports a high diversity of plant communities. Regionally limited, perennially watered habitats and adjacent upland plant communities provide vital support to wildlife populations, including migrating and wintering mule deer.	Bridgeport	East Walker River Basin plant communities have generally been converted to pasture, yet some primarily native, sensitive shrublands and grasslands remain in the area that was studied. Meanwhile, the hillier Basin fringe habitats retain primarily native species, less disturbed cover, and habitat connectivity for use by sensitive wildlife including greater sage grouse.
Tom's Place	Bitterbrush (key forage for mule deer) dominates the primarily uplands forest and scrub habitats in this area, forming extensive, dense and healthy stands. As in all other areas studied except Chalfant Valley and Benton, maintenance of normal fire frequency and intensity in these stands is currently threatened by the invasive non-native annual cheatgrass.	Walker	Vegetation of this area has been substantially impacted by destructive wildfire, and flooding of the West Walker River. Non-native annuals such as cheatgrass have become dominant extensively in mechanically disturbed and recently burned areas. Riparian habitat creation is associated with agricultural conversion, at long-standing water diversion corridors throughout Antelope Valley.
Little Round Valley	Spring-driven riparian and wetland plant communities provide diverse habitats that have some potential to harbor sensitive plants and animals, and as tributary waters the activities within their extents may be regulated under Clean Water Act laws.	Coleville	Plant communities at West Walker River riparian habitats and along long-standing irrigation water conveyances provide, nesting bird habitat, wildlife movement corridors, and other habitat values. As tributary waters, activities within their extents may be regulated under Clean Water Act laws. Nearly all upland habitats have been converted to ruderal status following devastating wildfire.
Crowley Lake	Springs and perennial streams support extensive wetland and riparian habitats that often support relatively intact, sensitive plant communities. These communities and the adjacent forest and scrub lie along a tridirectional migration route for mule deer.	Topaz	Willow Riparian Scrub communities in the southern portion of Topaz provide stable, densely vegetated pathways for wildlife movement and a host of associated ecological values, but upland habitats have been converted to ruderal status following devastating wildfire.

4.4.3 REGULATORY SETTING

The regulatory setting sections describes relevant federal, state, and local laws, regulations and policies pertaining and applicable to environmental impacts within the Planning Area.

4.4.3.1 Federal Regulations

Federal Endangered Species Act (ESA). The USFWS administers the Federal ESA. The ESA provides a process for listing species as either threatened or endangered, and methods of protecting listed species. The ESA defines as “endangered” any plant or animal species that is in danger of extinction throughout all or a significant portion of its known geographic range. A “threatened” species is a species that is likely to become endangered. A “proposed” species is one that has been officially proposed by the USFWS for addition to the federal threatened and endangered species list. Per §9 of the ESA, “take” of threatened or endangered species is prohibited. The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. Take can include disturbance to habitats used by a threatened or endangered species during any portion of its life history. The presence of any federally threatened or endangered species in a project area generally imposes severe constraints on

development, particularly if development would result in “take” of the species or its habitat. Under the regulations of the ESA, the USFWS may authorize “take” when it is incidental to, but not the purpose of, an otherwise lawful act.

Federal Clean Water Act - §404. The USACE administers CWA §404. This section regulates the discharge of dredge-and-fill material into waters of the U.S. USACE has established a series of nationwide permits that authorize certain activities in waters of the US, if a proposed activity can demonstrate compliance with standard conditions. Normally, USACE requires an individual permit for an activity that will affect an area equal to or in excess of 0.5 acre of waters of the US. Projects that result in impacts to less than 0.5 acre can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. USACE also has discretionary authority to require an EIS for projects that result in impacts to an area between 0.1 and 0.5 acre. Use of any nationwide permit is contingent on the activities having no impacts to endangered species.

Clean Water Act - §401. Per §401 of the CWA, “any applicant for a Federal permit for activities that involve a discharge to waters of the State, shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal CWA.” Thus applicants must apply for and receive a §401 water quality certification from the RWQCB before the USACE will issue a §404 permit. §404 Nationwide Permits (NWP) are required for discharge of any dredged or fill material into waters of the United States.

Waters of the United States. Waters of the U.S., as defined in CFR §328.3, include all waters or tributaries to waters such as lakes, rivers, intermittent and perennial streams, mudflats, sand-flats, natural ponds, wetlands, wet meadows, and other aquatic habitats. Frequently, waters of the US, with at least intermittently flowing water or tidal influences, are demarcated by an ordinary high water mark (OHWM). The OHWM is defined in CFR §328.3(e) as the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. In this region, the OHWM is typically indicated by the presence of an incised streambed with defined bank shelving. In 2010 the USACE South Pacific Division issued a Regional Supplement to the USACE Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region, one of a series of Regional Supplements to the USACE Wetland Delineation Manual designed to provide technical guidance and procedures for identifying and delineating wetlands that may be subject to CWA §404 or §10 of the Rivers and Harbors Act. The Supplement applies to the Western Mountains (including the Sierra Nevada), Valleys, and Coast Region portions of, California and 11 other western states.

Wetlands. According to the USACE Wetlands Delineation Manual, Technical Report, three criteria must be satisfied to classify an area as a jurisdictional wetland:

- A predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation)
- Soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils)
- Permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology)

Wetland vegetation is characterized by vegetation in which more than 50 percent of the composition of dominant plant species are obligate wetland, facultative wetland, and/or facultative species that occur in wetlands. As a result of the 2001 Solid Waste Agency of North Cook County (SWANCC) case, a wetland must show connectivity to a stream course in order for such a feature to be considered jurisdictional. Although wetland criteria was used to identify if areas were considered wetlands, the exact limits of jurisdiction were not measured based on the standard wetland delineation protocol as described in the 1987 USACE manual.

Migratory Bird Treaty Act. The Migratory Bird Treaty Act (MBTA) protects all common wild birds found in the US except the house sparrow, starling, feral pigeon, and resident game birds (e.g. pheasant, grouse, quail, and wild turkey); each state manages resident game birds separately. The MBTA makes it unlawful for anyone to kill, capture, collect, possess, buy, sell, trade, ship, import, or export any migratory bird including feathers, parts, nests, or eggs.

4.4.3.2 California Regulations

California ESA. CDFW administers the California ESA. The State of California considers an “endangered” species one whose prospects of survival and reproduction are in immediate jeopardy. A “threatened” species is one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A “rare” species is one present in such small numbers throughout its portion of its known geographic range that it may become endangered if its present environment worsens. The rare species designation applies to California native plants. State threatened and endangered species are fully protected against take, as defined above. The term “species of special concern” is an informal designation used for some declining wildlife species that are not state candidates for listing. This designation does not provide legal protection but signifies that these species are recognized as sensitive by CDFW.

California Fish and Game Code - §1600 to § 1603. The CFG Code mandates that “it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity.” CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses, including dry washes, characterized by the presence of hydrophytic vegetation, the location of definable bed and banks, and the presence of existing fish or wildlife resources. Furthermore, CDFW jurisdiction is often extended to habitats adjacent to watercourses, such as oak woodlands in canyon bottoms or willow woodlands that function as part of the riparian system. Historic court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear, but re-emerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdiction. However, CDFW does not regulate isolated wetlands (those that are not associated with a river, stream, or lake).

Porter-Cologne Water Quality Act. The RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, within any region that could affect the water of the state” (Water Code §13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Act. “Waters of the State” are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code §13050 (e)).

Regional Water Quality Control Board Regulated Activities. Under §401 of the CWA, the RWQCB regulates all activities that are regulated by the USACE. Additionally, under the Porter-Cologne Water Quality Act, the RWQCB regulates all activities, including dredging, filling, or discharge of materials into waters of the state that are not regulated by the USACE due to a lack of connectivity with a navigable water body and/or lack of an OHWM.

California Fish & Game Code - §3503 & §3511. The CDFG administers the California Fish and Game Code (CFG Code). There are particular sections of the CFG Code that are applicable to natural resource management. For example, §3503 of the CFG Code states it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird that is protected under the MBTA. CFG Code §3503.5 further protects all birds in the orders Falconiformes and Strigiformes, birds of prey such as hawks and owls, and their eggs and nests from any form of take. CFG Code §3511 lists fully protected bird species where the CDFG is unable to authorize the issuance of permits or licenses to take these species.

4.4.3.3 Local Regulations

Mono County General Plan. A number of policies contained in the existing Mono County *Open Space and Conservation Element* as well as other elements of the *2001 General Plan* provide protections for biological resources.

4.4.4 IMPACTS AND MITIGATION MEASURES

4.4.4.1 Thresholds of Significance

Consistent with Appendix G of the CEQA Guidelines, the proposed RTP/General Plan update project will be considered to have a significant impact on biological resources if it will:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural plant community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?

- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

In the context of the thresholds above, note that the analysis summarized in this section and detailed in the Biological Assessment (<http://monocounty.ca.gov/planning/page/mono-county-general-plan-update>) point to several issues that are general to Mono County community areas. Highlighting these general issues facilitates identification of standard prescriptions that will contribute to reducing or mitigating foreseeable impacts on biological resources. General factors, or thresholds, that should be considered for this purpose include:

- size of the affected habitat relative to the availability of this habitat post-project (regional context),
- the current level of habitat disturbance,
- the site's species and habitat diversity,
- abundance of indicator species (as per USFS, 2004),
- presence of sensitive species,
- the site's regional importance to populations of sensitive species and important/protected migrants, and
- the degree to which the onsite habitats are regionally rare and are therefore considered sensitive.

Generally, impacts would be considered less than significant if they occur in demonstrably common or degraded habitats where the best available, preferably current information shows that sensitive species do not currently occupy or otherwise rely upon as essential to some stage of their life cycles. But in the long term, infilling development and the associated increases in vehicular traffic, unrestrained domestic pets, noise, and lighting, are likely to synergistically reduce habitat carrying capacity and biological diversity at the scale of the community extent. Some impacts (e.g., invasive non-native plants) can eventually move beyond community extents if not checked.

IMPACT 4.49(a): Implementation of the proposed RTP/General Plan Update could have a substantial adverse effect, directly and through habitat modifications, on species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS.

POTENTIALLY SIGNIFICANT ADVERSE IMPACT: Approval of the proposed RTP/General Plan update would not constitute approval of or entitlement for any development or infrastructure projects. However, implementation of land uses and activities included in the *RTP/General Plan Update* would facilitate and allow future development activities throughout the County. Activities that cause substantial habitat modification could result in significant adverse impacts to sensitive plant and wildlife species, including loss of local population viability. These potentially occurring species can be identified for each of the 16 unincorporated communities that were selected for detailed study. These communities – Chalfant Valley, Benton, Benton Hot Springs, Paradise, Swall Meadows, Tom's Place, Little Round Valley, Crowley Lake, McGee Creek, Long Valley, June Lake, Lee Vining, Bridgeport, Walker, Coleville, and Topaz – are locations where the proposed *RTP/General Plan Update* incorporates use designations that would permit future land use development or other modifications. Details of the rationale for each sensitive species' inclusion in this analysis are given in the full Biological Report (<http://monocounty.ca.gov/planning/page/mono-county-general-plan-update>). Impacts for each community are described in the paragraphs below.

CHALFANT VALLEY. In Chalfant Valley, the available habitats range from locally and regionally extensive (Black Greasewood Scrub, Shadscale Scrub) to rare (Willow Riparian Scrub, Transmontane Alkaline Marsh, Alkali Sacaton Grassland). Some potentially occurring sensitive plant species (populations of two of these species have been recently documented as extant), and nearly all potentially occurring sensitive wildlife species would be closely associated with spring-driven habitats east of White Mountain Estates. This habitat includes mature trees that could be chosen for

nesting by Swainson's hawk, and this species may forage in the area also. American badger may use any of the more expansive upland areas. More generally, removal of existing buildings could impact roosting bats such as pallid bat and western small-footed myotis. Only pallid bat would be adapted to establishing natal colony rookeries within the Chalfant Valley study limits.

Pygulopsid springsnails of the Owens Valley and nearby Fish Slough have some potential to occur at one perennial spring east of White Mountain Estates. This spring, flanked by seasonal seeps to the north and south, is the northernmost extension of the extensive spring complex on immediately adjacent BLM and LADWP lands to the south that could support Owens Valley springsnail. Alterations to the local groundwater dynamics, such as could be caused by additional groundwater development, could impact potentially occurring sensitive species that are dependent on aquatic habitat for all or part of their life cycle. Seasonal or permanent reductions in the availability of shallow groundwater could impact populations of potentially occurring sensitive plants that are phreatophytic, or dependent upon this resource for drought-season survival. Projects that promote or allow the spread of the occurring non-native trees could reduce seasonal groundwater availability. Loss of groundwater-dependent willows due to displacement by non-native plants could impact Panamint alligator lizard, if a population occurs in the available habitat.

Chalfant Valley Impacts: Future development in Chalfant Valley that substantially modifies the habitat including soil and vegetation disturbance has some potential to impact the sensitive plant species coyote gilia, silver-leaved milkvetch, Shockley's milkvetch, Hillman's silverscale, pinyon rockcress, Inyo County star-tulip, Wheeler's dune-broom, Hall's meadow hawksbeard, July gold, Booth's hairy evening primrose, white-flowered rabbitbrush, Shockley's buckwheat, alkali ivesia, Inyo blazing star, Torrey's blazing star, Nevada oryctes, small-flowered grass of Parnassas, Inyo phacelia, Parish's popcornflower, Bailey's greasewood, Owens Valley checkerbloom, alkali cord grass, prairie wedge grass, small-flowered ricegrass, foxtail thelypodium, and many-flowered thelypodium. Significant impacts may occur through direct loss of occurring populations or displacement of the habitat they occupy. Future development similarly has some potential to impact the sensitive wildlife species Owens Valley springsnail, Fish Slough springsnail, Wong's springsnail, Owens speckled dace, northern leopard frog, Panamint alligator lizard, nesting Swainson's hawk during the period February 15 to September 15, pallid bat, western white-tailed jackrabbit, western small-footed myotis, and American badger. The removal of existing buildings could impact roosting bats such as pallid bat and western small-footed myotis.

Alterations to the local groundwater function to provide (somewhat alkaline or saline) artesian surface flow, or alterations (such as additional groundwater development) that would reduce the reliability, change the seasonal timing, or reduce the availability of surface flows and shallow groundwater has some potential to significantly impact silver-leaved milkvetch, Inyo County star-tulip, Hall's meadow hawksbeard, alkali ivesia, small-flowered grass of Parnassas, Bailey's greasewood, Owens Valley checkerbloom, alkali cord grass, prairie wedge grass, and foxtail thelypodium, Owens Valley springsnail, Fish Slough springsnail, Wong's springsnail, Owens speckled dace, northern leopard frog, and Panamint alligator lizard, which would be dependent on existing aquatic habitat or the presence of phreatophytic vegetation for all or part of their life cycle. Projects could promote the introduction or spread of the occurring non-native tamarisk, black locust, and Siberian elm trees, or other wetland-adapted non-native plant species that would reduce seasonal groundwater availability or displace native plant communities. This occurrence would have some potential to impact these same species.

BENTON. Benton on the whole is relatively dry habitat for plants and wildlife. The xeric, scrub-like Desert Saltbush Scrub Black Greasewood Scrub alliances and even the limited Willow Riparian Scrub alliance present at Benton appear to be too dry to support most of the sensitive plant species that can be found regionally in more mesic habitats; none of these areas support dense vegetation, alkaline meadow grasses, species specially adapted to anaerobic alkaline soils, or the typical shallow-rooted native perennials of the region. There are no large trees in the natural or developed landscape, only non-native residential shade trees in town. Golden eagle and prairie falcon, which may use similar habitats in Chalfant Valley, could use the available Benton habitats for foraging but would be very unlikely to nest, roost, or breed there. The project area's lack of aquatic habitats excludes occurrence of sensitive fish and aquatic mollusks.

Several sensitive plant species and one bryophyte species have some likelihood to occur despite the general pervasiveness of vegetation disturbance in the Benton area. However, none of these species are known to be particularly adapted to mechanically disturbed habitats. Annual herbaceous species such as sand dune cryptantha, Booth's evening primrose, dwarf monolepis, and naked-stem phacelia may not be present outside the seed bank in years of below-

normal to normal (average) precipitation. Perennial herbs in this setting may similarly be cryptic during years of below normal rainfall. Projects that will disturb the soil or vegetation within Black Greasewood Scrub may impact Shevock's bristle moss, if its nearby occurrence extends to rocks in Benton's extensive upland habitats.

Sensitive animal species were identified as having some potential to occur in Benton during the nesting season or as residents. Townsend's big-eared bats and spotted bats are known to use mine shafts on nearby Blind Spring Hill for roosting, but no mines or caves that might be attractive to bats occur in the relatively flat landscape of Benton. While it is unknown where high elevation greater sage grouse relocate to during winter months, the 14 mile distance to the nearest recently documented use in the White Mountains, combined with the lack of sagebrush dominance, make it very unlikely that greater sage grouse use biological resources of the area. Benton's irrigated agricultural lands often include mature trees near areas suitable for foraging that could be chosen for nesting by Swainson's hawk during the period March 15- September 15, and this species may forage in the area.

Benton Impacts: Future development in Benton that substantially modifies the habitat including soil and vegetation disturbance has some potential to impact the sensitive plant species Great Basin onion, Bodie Hills rockcress, pinyon rockcress, Wheeler's dune-broom, sand dune cryptantha, globose cymopterus, Booth's evening primrose, Booth's hairy evening primrose, dwarf monolepis, Suksdorf's broom-rape, naked-stem phacelia, intermountain milkwort, and golden violet, and the sensitive bryophyte Shevock's bristle moss, through direct loss of occurring populations or displacement of the habitat they occupy. Future development similarly has some potential to impact the sensitive wildlife species Swainson's hawk (nesting during the period February 15 to September 15), western white-tailed jackrabbit, and western small-footed myotis. Impacts to the sensitive plant species Great Basin onion, Bodie Hills rockcress, pinyon rockcress, sand dune cryptantha, globose cymopterus, Booth's evening primrose, Booth's hairy evening primrose, dwarf monolepis, Suksdorf's broom-rape, naked-stem phacelia, and golden violet may occur even though pre-construction surveys do not indicate presence, as these species are adapted to be cryptic or remain within the seedbank during years of below-normal precipitation. Removal of existing buildings could impact roosting bats such as western small-footed myotis. Projects that promote spread of the occurring non-native tamarisk, black locust, and Siberian elm trees have some potential to impact the sensitive plant species Great Basin onion, sand dune cryptantha, Booth's evening primrose, Booth's hairy evening primrose, and Suksdorf's broom-rape.

BENTON HOT SPRINGS. From the standpoint of potentially occurring sensitive plants and animals, the Benton Hot Springs complex should be regarded as an isolated habitat island within a much greater expanse of xeric Great Basin sagebrush scrub and pinyon-juniper woodlands. Furthermore, the area's mesic plant community types may be described as "rare" in or "disappearing" from inhabited areas of the Great Basin. While these plant communities locally are historically disturbed to the point of becoming relic fragments, and spring flows have been long-diverted, they likely function to provide important surface water and riparian habitat resources for migrating and resident wildlife, including sensitive species.

Potentially occurring sensitive plant populations segregate into two groups, those likely to occur in uplands (especially Great Basin Mixed Scrub), and those having some likelihood to occur in the wetland areas, or more remotely at channelized outflows that retain little or no riparian character in this area. However, the aquatic perennial herb frog's-bit buttercup, which may occur at springs in Transmontane Freshwater Marsh, could also occur in (spring-fed) perennially watered outflow channels.

Sensitive wildlife species were identified as having some potential to occur there during the nesting season or as residents (see the full report). Prairie falcon, a CDFW watchlist species, may forage locally but is very unlikely to nest in the study area due to an absence of vertical cliff habitat. The State Candidate species Townsend's big-eared bat has some potential to forage over Benton Hot Springs, due to the proximity of recently documented roosting sites for this species, but is not expected to use any of the available habitats for day roosting, for hibernating, or for establishing natal rookeries. Spotted bats forage primarily in riparian corridors or similarly wet habitats, and so may forage over Benton Hot Springs. No mines or caves that might be attractive to bats occur in the study area. Benton Meadows (irrigated) lands, which are located adjacent to the study area, are patchily bordered by mature Fremont's cottonwood trees that could be chosen for nesting by Swainson's hawk. This species may forage in the expansive meadows now managed as livestock pasture. Prior to intensive livestock grazing and trampling as practiced during the 20th century and to date, these meadows may have once expansively provided the moist, lush turf habitat where all known extant populations of

Owens Valley vole are found. Presence of this species in Benton Hot Springs would be possible only in relic, relatively densely grassy stands that have been protected from devegetation associated with long-term pasturage.

Benton Hot Springs Impacts: Future development that substantially modifies the habitat including soil and vegetation disturbance has some potential to impact the sensitive plant species Great Basin onion, Long Valley milkvetch, smooth saltbush, Bodie Hills rockcress, pinyon rockcress, Inyo County star-tulip, Wheeler's dune-broom, Hall's meadow hawksbeard, sand dune cryptantha, globose cymopterus, Booth's hairy evening primrose, alkali ivesia, dwarf monolepis, Suksdorf's broom-rape, naked-stem phacelia, Inyo phacelia, Parish's popcornflower, frog's-bit buttercup, alkali tansy sage, and golden violet, and the sensitive bryophyte Shevock's bristle moss, through direct loss of occurring populations or displacement of the habitat they occupy. Future development similarly has some potential to impact the sensitive wildlife species Benton Valley springsnail, Wong's springsnail, Owens speckled dace, nesting Swainson's hawk during the period February 15 to September 15, western white-tailed jackrabbit, and Owens Valley vole.

Alterations to the local groundwater (such as additional groundwater development) that would function to reduce the reliability or change the seasonal timing of spring-fed surface flows have some potential to significantly impact the sensitive species frog's-bit buttercup, Benton Valley springsnail, Wong's springsnail, and Owens speckled dace, which would be dependent on existing aquatic habitat for all or part of their life cycle, and similarly induced reductions in the availability of shallow groundwater have some potential to impact the sensitive species Inyo County star-tulip, Hall's meadow hawksbeard, alkali ivesia, and alkali tansy sage. Further disturbance to the bed, banks, or water quality of relic or channelized spring outflow channels (these channels should be treated conservatively as Transmontane Freshwater Marsh) would have some potential to impact the sensitive species frog's-bit buttercup, Benton Valley springsnail, Wong's springsnail, and Owens speckled dace. Projects could promote the introduction or spread of the occurring non-native tamarisk, black locust, and Siberian elm trees, or other wetland-adapted non-native plant species that would reduce seasonal groundwater availability or displace native plant communities. This occurrence would have some potential to impact these same species. Impacts identified for these habitats within community areas may extend downstream into the hydrologically connected Benton Meadows (receiving waters) aquatic and meadow habitats.

PARADISE. The remaining native habitats at Paradise are primarily upland scrub. Lower Rock Creek narrowly provides the only mesic habitat in Paradise. Regionally occurring sensitive species of alkaline and non-alkaline meadow or spring margin habitats would be very unlikely to occur, because these habitat types are not present. Potentially occurring sensitive plant populations would have some likelihood to occur in upland High Desert Blackbrush Scrub, Big Sagebrush Scrub, or Rubber Rabbitbrush Scrub, or in Lower Rock Creek riparian communities, but generally not in both. The ecotonal transitions between plant communities are generally distinct, which would facilitate the performance of floristic surveys. The single known crowned muilla population in Paradise is the only known occurrence of this species in Mono County. Limited soils derived from decomposed granite or Bishop tuff at Paradise could support similarly marginal populations of sensitive species that are known to be adapted locally to sandy, seasonally moist but drying soils, including the annual Nevada oryctes and the perennial Wheeler's dune broom.

The reliably perennial flows of Lower Rock Creek may support sensitive mollusk, fish, and amphibian species that are known to occur in connected waters. The steep, cliff-like rock faces that define Lower Rock Creek gorge in the study area and for many miles upstream have some likelihood to be chosen for nesting by golden eagle, prairie falcon, Swainson's hawk, and bank swallow. This is the only area of Paradise that supports native trees or features cliff-like embankments. Pallid bats and spotted bats may use the available rock face crevices there for day roosting, hibernation or natal rookery establishment. Pallid bats have been known to also occupy abandoned buildings for such uses. CNDDDB records depict Sierra Nevada red fox individuals as foraging elsewhere in widely varying habitats, including developed areas, and so foxes are presumed to have some likelihood to enter any property. There exists some potential for the State Candidate species Townsend's big-eared bat to forage over Paradise, but this species is not expected to use any of the available habitats for day roosting, hibernating, or for establishing natal rookeries. Mule deer may seek to use the reliably available surface water at Lower Rock Creek, and may use the riparian corridor there for cover during movements.

Upland scrub habitat plant communities provide somewhat marginal browse for mule deer, but could contribute to winter viability of the Round Valley Herd. The Paradise study area is in the corridor used by this herd for migration

between summer and winter ranges, but resident deer may be found during any time of year at any of the mapped habitats. Additional development in the area could cumulatively function to adversely inhibit deer migrational movement or reduce the availability of critical browse during winter holding (November through April). On the shorter term, construction activities during this annual period may temporarily restrict deer use of the available browse.

Paradise Impacts: Future development in Paradise that substantially modifies the habitat including soil and vegetation disturbance has some potential to impact the sensitive plant species Great Basin onion, Long Valley milkvetch, Lemmon's milkvetch, pinyon rockcress, Wheeler's dune-broom, Inyo hulsea, McGee Meadows lupine, Torrey's blazing star, crowned Muilla, Nevada oryctes, frog's-bit buttercup, Bailey's greasewood, foxtail thelypodium, and many-flowered thelypodium through direct loss of occurring populations or displacement of the habitat they occupy. Future development similarly has some potential to impact the sensitive wildlife species Wong's springsnail, Owens sucker, Owens speckled dace, Owens tui chub, Mount Lyell salamander, northern leopard frog, golden eagle, Swainson's hawk, willow flycatcher, prairie falcon, bank swallow, pallid bat, spotted bat, western white-tailed jackrabbit, and Sierra Nevada red fox. Demolition of existing unoccupied buildings has some potential to impact roosting bats including sensitive pallid bats. With the exceptions of western white-tailed jackrabbit, Sierra Nevada red fox, and mule deer, the potential for significant development-related impacts to sensitive wildlife species exists only at within-gorge habitats of Lower Rock Creek.

Alterations to Lower Rock Creek that would function to reduce the reliability or change the seasonal timing of surface flows and shallow groundwater recharge have some potential to significantly impact the sensitive species Lemmon's milkvetch, frog's-bit buttercup, Wong's springsnail, Owens sucker, Owens speckled dace, Owens tui chub, Mount Lyell salamander, and northern leopard frog, which are dependent on aquatic habitat for all or part of their life cycle. Projects that promote or allow the spread of the occurring non-native black locust trees and periwinkle in the Lower Rock Creek riparian corridor have some potential to displace the sensitive plants Lemmon's milkvetch, crowned muilla, and frog's-bit buttercup, and adversely degrade the available habitat for Wong's springsnail, Owens sucker, Owens speckled dace, Owens tui chub, Mount Lyell salamander, northern leopard frog, and willow flycatcher. Impacts identified for Lower Rock Creek habitats within town areas may extend downstream into the hydrologically connected, long-standing canals of Round Valley.

In Paradise, substantial further loss of upland scrub vegetation habitat that is dominated by bitterbrush has some potential to significantly reduce the local carrying capacity and reproductive success for mule deer that overwinter in the area, and construction during winter holding (November through April) may adversely but temporarily impact their access to limiting browse resources. Projects that promote or allow the spread of the occurring non-native annual species in upland scrub plant communities, especially occurring cheatgrass, have potential to negatively impact the effective fire frequency of surrounding scrub, leading to significant displacement of native browse species upon which overwintering mule deer depend. Development that cumulatively fragments upland scrub dominated by bitterbrush could significantly limit mule deer use of the available browse or their access to surface water at Lower Rock Creek.

SWALL MEADOWS. The community of Swall Meadows has developed in close association with large perennial springs that arise at the base of Wheeler Ridge. The artesian flows function to maintain native species diversity, recharge groundwater for vegetation and human use, and provide aesthetic values to a notably scenic landscape. Due to the seasonal drying of soils over many years, evaporite salt accumulation in spring discharge areas has been sufficient to create saline-alkaline conditions in limited areas. Thus, freshwater habitats are widely available for wetland-adapted species, as well as habitats for the (often sensitive) native species whose occurrences are locally restricted to soils exhibiting elevated salinity.

As in other areas of Mono County where human habitation has been focused, the surface waters are limited resources embedded within an upland forest or scrub-covered, seasonally waterless landscape. This position gives importance to the resources that remain available for wildlife use, including perennially aquatic species, seasonal visitors (nesting birds, for example) and long-distance migrants (mule deer). However, these flows are isolated in the sense that they do not discharge to surface flows at Lower Rock Creek or elsewhere. Infiltration and evapotranspiration eliminate surface flows within each incised discharge, a pattern that is clearly reflected in the pattern of riparian and mesic meadow vegetation communities they support. Relative to other communities associated with surface flows in Mono County, the pattern of wet and dry community occurrence is relatively intricate, and shifts that signal presence or shift from upland to wetland

types are likely to occur on any property. Wildlife, including sensitive species, may disperse from nearby extensive aquatic systems to these isolated springs and wetlands. However, the landscape generally is already impaired for use by wildlife, due to the existing development of uplands between and around wetland areas and surface waters.

Large areas of the naturally occurring and historically disturbed vegetation in uplands and wetlands settings were destroyed by catastrophic wildfire in 2015. The fire occurred during a period of notable drought in the area, and living cover was more or less completely destroyed regardless of plant community type, unless prior thinning had been performed (one example survived, in thinned Jeffrey Pine Forest). In the recovering fire zone, the likelihood of occurrence of sensitive plant or animal populations has been substantially decreased, while remaining unburned examples correspondingly gain substantial ecological importance as possible sources of recolonizers. There is evidence that the primarily bitterbrush-dominated former upland scrub type will not readily return, and should not be expected to be as prevalent in the near term seral development. On the other hand, spring-driven wetland zones are likely to recover their former pattern of vegetation in relatively quick order; areas mapped as wetland in 2014-15 can be presumed after 1-2 years to have completely regained their inherent potential to harbor sensitive plants and wildlife.

Swall Meadows Impacts: Future development in Swall Meadows that substantially modifies the habitat including soil and vegetation disturbance has some potential to impact the sensitive plant species Long Valley milkvetch, Lemmon's milkvetch, Mono milkvetch, pinyon rockcress, upswept moonwort, scalloped moonwort, Inyo County star-tulip, pygmy pussypaws, Hall's meadow hawksbeard, subalpine fireweed, Booth's evening primrose, Booth's hairy evening primrose, Inyo hulsea, slender lupine, Torrey's blazing star, dwarf monolepis, small-flowered grass of Parnassus, scalloped-leaved lousewort, Inyo beardtongue, naked-stem phacelia, Inyo phacelia, Owens Valley checkerbloom, alkali tansy-sage, slender-leaved pondweed, foxtail thelypodium, marsh arrow-grass, and golden violet, and the sensitive bryophyte Blandow's bog moss, through direct loss of occurring populations or displacement of the habitat they occupy. Future development could similarly impact the potentially occurring sensitive wildlife species Wong's springsnail, Owens speckled dace, Long Valley speckled dace, Mount Lyell salamander, northern leopard frog, Sierra Nevada yellow-legged frog, willow flycatcher, western white-tailed jackrabbit, Owens Valley vole, and Sierra Nevada red fox. Any further loss or isolation of upland scrub vegetation habitat that is dominated by bitterbrush may reduce the local carrying capacity and reproductive success for mule deer that overwinter in the area, and construction during winter holding (November through April) may adversely but temporarily impact their access to limiting browse resources. Due to increased noise, night lighting, presence of domestic dogs, fencing, collisions with vehicles, and loss of browse, future development could cumulatively add to the landscape's already impaired function to support sensitive game species by limiting mule deer use of the available browse, or their access to surface water, or by blocking migration routes.

Projects that promote or allow the spread of the occurring non-native annual species in upland scrub plant communities, especially occurring cheatgrass, have potential to negatively impact the effective fire frequency of surrounding scrub. Significant loss of upland habitats, even temporarily, may decrease the viability of Long Valley milkvetch, Lemmon's milkvetch, Mono milkvetch, pinyon rockcress, pygmy pussypaws, Booth's evening primrose, Booth's hairy evening primrose, Inyo hulsea, slender lupine, Torrey's blazing star, dwarf monolepis, Inyo beardtongue, naked-stem phacelia, foxtail thelypodium, and golden violet locally, may impact burrows occupied by Sierra Nevada red fox, and may displace native bitterbrush and other browse species upon which overwintering mule deer depend. Fragmentation of upland scrub could cumulatively limit wildlife access to surface water at Swall Meadows' spring outflows. Alterations to local artesian hydrologic function that would reduce the reliability or change the seasonal timing of surface flows and shallow groundwater recharge have some potential to significantly impact the sensitive species Lemmon's milkvetch, upswept moonwort, scalloped moonwort, Inyo County star-tulip, Hall's meadow hawksbeard, subalpine fireweed, small-flowered grass of Parnassus, scalloped-leaved lousewort, Inyo phacelia, Owens Valley checkerbloom, alkali tansy-sage, slender-leaved pondweed, marsh arrow-grass, Blandow's bog moss, Wong's springsnail, Owens speckled dace, Long Valley speckled dace, Mount Lyell salamander, northern leopard frog, Sierra Nevada yellow-legged frog, willow flycatcher, and Owens Valley vole, which are dependent on aquatic habitat for all or part of their life cycle.

TOM'S PLACE. Habitats that are currently available for plants and wildlife including sensitive species at Tom's Place are nearly entirely upland. One small, springfed willow thicket amid the already developed central residential area and the narrow Rock Creek riparian corridor dominated by water birch provide the only exceptions. Development elsewhere would impact relatively xeric forest and scrub with no vegetative indications of wetland or riparian habitat presence. It

would occur in vegetation and soils that today resemble and remain highly connected to the undisturbed public lands that surround the town. Among the incorporated communities of Mono County, Tom's Place upland habitats are perhaps the least fragmented at this time.

Two major soil types are present, those derived from granitic parent material of the Sierra Nevada, and those derived from Bishop tuff volcanic material. Volcanic soils may be pumice-dominated, and isolated topographic depressions in this setting may be internally drained. This range of soils bolsters the list of potentially occurring sensitive plant species, although the overall dryness of the habitats would limit occurrences to species tolerant of long summer drought. The drought-tolerant shrub bitterbrush is dominant across soil types, being prevalent in the shrub canopy in scrublands as well as the most abundant understory component in most woodland and forest communities. The bulk of upland habitat north of US 395 is currently free of many noxious weeds that are typical of the region, including cheatgrass. High quality browse abundance along the traditional mule deer migration route that passes through and around Tom's Place is potentially limiting to the Round Valley Herd.

Tom's Place Impacts: Future development in Tom's Place may impact the potentially occurring sensitive plant species Long Valley milkvetch, Lemmon's milkvetch, Mono milkvetch, Masonic rockcress, pinyon rockcress, pygmy pussypaws, Booth's evening primrose, Booth's hairy evening primrose, Inyo hulsea, Torrey's blazing star, dwarf monolepis, Inyo beardtongue, foxtail thelypodium, marsh arrow-grass, and golden violet, and the sensitive bryophyte Blandow's bog moss, through direct loss of occurring populations or displacement of the habitat they occupy. Future development could similarly impact the potentially occurring sensitive wildlife species Owens sucker, Owens speckled dace, Owens tui chub, Mount Lyell salamander, northern leopard frog, northern goshawk, willow flycatcher, blad eagle, spotted bat, western white-tailed jackrabbit, Sierra marten, and Sierra Nevada red fox. Substantial loss of upland vegetation that is dominated by bitterbrush has some potential to significantly reduce the local carrying for mule deer that migrate through the area, and construction during migration (April through June and September through December) may adversely impact their access to limiting browse resources. Cutting or fuel reduction-related removal of standing snags or large downed tree boles could impact potentially occurring Sierra marten den habitat, and habitat that is being used by roosting bats including spotted bat. Also, any disturbance to existing tuff outcrops could impact roosting bats including spotted bat.

Substantial alterations to the water quality, or seasonal pattern of the surface flows at Rock Creek could impact the potentially occurring sensitive plant species Lemmon's milkvetch and marsh arrowgrass, and the sensitive bryophyte Blandow's bog moss, and the potentially occurring wildlife species Owens sucker, Owens speckled dace, Owens tui chub, Mount Lyell salamander, and northern leopard frog, which are dependent on aquatic habitat for all or part of their life cycle. Impacts identified for Rock Creek habitats within Tom's Place may extend downstream into Lower Rock Creek and the hydrologically connected, long-standing canals of Round Valley. Projects that promote or allow the spread of the occurring non-native annual species in upland scrub plant communities, especially cheatgrass, have a potential to negatively impact the effective fire frequency.

Due to increased noise, night lighting, presence of domestic dogs, fencing, collisions with vehicles, and loss of browse, future development could cumulatively impair the landscape's function to support sensitive game species by limiting mule deer use of the available browse, or their access to surface water at Rock Creek, or by blocking migration routes or redirecting animals onto US 395.

LITTLE ROUND VALLEY. Private lands at Little Round Valley are situated around a group of artesian springs and their outflow channels. Many of the habitats supported by these flows have been historically modified through progressive channelization, culvert installation, and vegetation clearing. Meadows north of Crowley Lake Drive have been expanded through water-spreading and managed for grazing. Habitats that could be potentially occupied by sensitive plants and animals generally occur as patches within the historically disturbed properties that comprise most of Little Round Valley. In this context, the outflow corridors, which support limited riparian vegetation, may yet serve as corridors for wildlife dispersal, daily and migratory movements, and use of the remaining habitat values.

The artesian outflows are seasonally connected to the Crowley Lake reservoir on the Owens River, but no flows of sufficient magnitude or quiet pools suitable for sensitive fish of Crowley Lake are present. Due to the seasonal drying of soils over many years, evaporite salt accumulation in spring discharge areas has been sufficient to create saline-alkaline conditions. Thus, freshwater habitats are widely available for wetland-adapted plant species, as well as habitats for the

(often sensitive) species whose occurrences are locally restricted to soils exhibiting elevated salinity. In addition, soils north of Crowley Lake Drive are widely derived from Bishop tuff volcanic material, further increasing the range of habitats available for sensitive plants.

The drought-tolerant shrub bitterbrush is patchily dominant across soils derived from granitic material of the steeply rising Sierra Nevada. Much of this upland habitat is currently free of many noxious weeds that are typical of the region, including cheatgrass. High quality browse abundance along the traditional mule deer migration route that passes through and around Little Round Valley is potentially limiting to the Round Valley Herd. Species that may be used by Bi-State greater sage grouse during overwintering or chick-rearing are dominant in the plant communities north of Crowley Lake Drive, and some of this area was recently proposed as critical habitat for the recovery of the Bi-State Population.

Little Round Valley Impacts: Future development in Little Round Valley may impact the potentially occurring sensitive plant species Long Valley milkvetch, Lemmon's milkvetch, Mono milkvetch, smooth saltbush, Masonic rockcress, pinyon rockcress, upswept moonwort, scalloped moonwort, Inyo County star-tulip, pygmy pussypaws, western single-spiked sedge, Hall's meadow hawksbeard, subalpine fireweed, Booth's evening primrose, Booth's hairy evening primrose, Inyo hulsea, alkali ivesia, Torrey's blazing star, dwarf monolepis, small-flowered grass of Parnassus, scalloped-leaved lousewort, Inyo beardtongue, naked-stem phacelia, Inyo phacelia, alkali tansy-sage, slender-leaved pondweed, foxtail thelypodium, marsh arrow-grass, and golden violet, and the sensitive bryophyte Blandow's bog moss, through direct loss of occurring populations or displacement of the habitat they occupy. Future development could similarly impact the potentially occurring sensitive wildlife species Wong's springsnail, Owens speckled dace, Long Valley speckled dace, Mount Lyell salamander, northern goshawk, greater sage grouse (Bi-State DPS), willow flycatcher, prairie falcon, spotted bat, western white-tailed jackrabbit, Sierra marten, and Sierra Nevada red fox.. In Little Round Valley, any further loss of upland scrub vegetation habitat that is dominated by bitterbrush may reduce the local carrying capacity for mule deer that migrate through the area. Cutting or fuel reduction-related removal of standing snags or large downed tree boles could impact potentially occurring Sierra marten den habitat, and habitat that is being used by roosting bats including spotted bat.

Any alterations to the hydrologic function, water quality, or quantity of the naturally occurring perennial or seasonal spring-driven surface flows at Little Round Valley could impact the potentially occurring sensitive plant species Lemmon's milkvetch, upswept moonwort, scalloped moonwort, Inyo County star-tulip, western single-spiked sedge, Hall's meadow hawksbeard, subalpine fireweed, alkali ivesia, small-flowered grass of Parnassus, scalloped-leaved lousewort, Owens Valley checkerbloom, alkali tansy-sage, slender-leaved pondweed, and marsh arrowgrass, and the sensitive bryophyte Blandow's bog moss. Such alterations could also impact populations of the potentially occurring sensitive wildlife species Wong's springsnail, Owens speckled dace, Long Valley speckled dace, and Mount Lyell salamander, which are dependent on aquatic habitat for all or part of their life cycle. Impacts identified for habitats containing spring-driven surface flows within Little Round Valley may extend downstream where these flows are tributary to the Owens River at Crowley Reservoir.

Projects that promote the spread of non-native annual species in upland scrub plant communities, especially occurring cheatgrass, could negatively impact the effective fire frequency of undeveloped within-town parcels and the surrounding public lands more generally, leading to displacement of native browse species upon which resident and migrating mule deer depend, and upon which foraging or chick-rearing greater sage grouse may depend. Increased noise, night lighting, presence of domestic dogs, fencing, collisions with vehicles, and loss of browse and cover for movement, could cumulatively limit deer access to surface water or fawning habitat, or could impact greater sage grouse access to sagebrush resources and marginally available chick-rearing habitat north of Crowley Lake Drive.

CROWLEY LAKE. Aquatic and riparian resources are prominent within the town of Crowley Lake. Vegetation associated with these extensive areas is relatively lush, and is diverse in comparison to the xeric scrubland environments occurring more generally in the southern Long Valley. Mesic plant communities in Crowley Lake are supported by perennial to (less commonly) seasonal shallow groundwater recharge from the abundant spring flows that accumulate in Whisky and Hilton Creeks as they pass through town. All of the current flowpaths have been to some degree historically altered, with apparent widespread devegetation of aspen-dominated riparian forest, and long-standing diversions for pasture creation. While long-term vegetation removal, water spreading and grazing are types of

disturbance that might limit sensitive species occurrence, it has also been found that with time these created meadows do support both sensitive plants and animals. The larger flows fall steeply yet contain quiet reaches, and quiet, sometimes constructed pools occur at various spring outflows, and these microhabitats may yet serve as refugia for sensitive mollusks, fish and amphibians of the region. Perennial surface flows ultimately are regathered for discharge to the nearby Crowley Lake reservoir on the Owens River.

Crowley Lake Impacts: Future development in Crowley Lake may impact the potentially occurring sensitive plant species Long Valley milkvetch, Lemmon's milkvetch, Mono milkvetch, Masonic rockcress, pinyon rockcress, upswept moonwort, scalloped moonwort, Inyo County star-tulip, pygmy pussypaws, western single-spiked sedge, subalpine fireweed, Booth's evening primrose, Booth's hairy evening primrose, pine fritillary, Inyo hulsea, Torrey's blazing star, dwarf monolepis, small-flowered grass of Parnassus, scalloped-leaved lousewort, Inyo beardtongue, naked-stem phacelia, slender-leaved pondweed, foxtail thelypodium, marsh arrow-grass, and golden violet, and the sensitive bryophyte Blandow's bog moss, through direct loss of occurring populations or displacement of the habitat they occupy. Future development could similarly impact the potentially occurring sensitive wildlife species Wong's springsnail, Owens sucker, Owens speckled dace, Long Valley speckled dace, Owens tui chub, Mount Lyell salamander, northern goshawk, greater sage grouse (Bi-State DPS), willow flycatcher, prairie falcon, bald eagle, spotted bat, western white-tailed jackrabbit, Sierra marten, and Sierra Nevada red fox. In Crowley Lake, any further loss of upland scrub vegetation habitat that is dominated by bitterbrush may reduce the local carrying capacity for mule deer that migrate through the area. Loss of upland scrub vegetation habitat that is dominated by dense big sagebrush, or emplacement of new structures and activities that subsidize predator abundance or grant predatory advantage in these habitats (for example, new raptor perches) may reduce the available habitat for greater sage grouse that are known to forage, and that potentially choose to nest, or raise chicks in the meadow and scrub areas north and west of town. Cutting or fuel reduction-related removal of standing snags or large downed tree boles could impact potentially occurring Sierra marten den habitat, and habitat that is being used by roosting bats including spotted bat. Removal of riparian tree canopies could impact Wong's springsnail, Owens sucker, Owens speckled dace, Long Valley speckled dace, and Owens tui chub due to loss of the shaded habitat, bank stabilization, and flow attenuation they provide.

Any alterations to the hydrologic function, water quality, or quantity of the naturally occurring perennial or seasonal spring-driven surface flows at Crowley Lake could impact the potentially occurring sensitive plant species Lemmon's milkvetch, upswept moonwort, scalloped moonwort, Inyo County star-tulip, western single-spiked sedge, subalpine fireweed, small-flowered grass of Parnassus, scalloped-leaved lousewort, slender-leaved pondweed, and marsh arrowgrass, and the sensitive bryophyte Blandow's bog moss. Such alterations could also impact populations of the potentially occurring sensitive wildlife species Wong's springsnail, Owens sucker, Owens speckled dace, Long Valley speckled dace, Owens tui chub, and Mount Lyell salamander, which are dependent on aquatic habitat for all or part of their life cycle. Disturbance of water-spreading and collecting ditches and associated irrigated areas are as likely to impact potentially occurring aquatic-dependent species as are their naturally occurring analogs, due to the long-standing operation of these irrigation conveyances and their hydrologic connection to waters that are tributary to Owens River. Impacts identified for habitats containing spring-driven surface flows within Crowley Lake may extend downstream where these flows are tributary to the Owens River at Crowley Reservoir.

Projects that promote the abundance of non-native annual species in upland scrub plant communities, especially occurring cheatgrass, could negatively impact the effective fire frequency of surrounding public lands, leading to displacement of native browse species upon which resident and migrating mule deer depend, and upon which foraging or chick-rearing greater sage grouse of the South Mono PMU may depend. Due to increased noise, night lighting, presence of domestic dogs, fencing, collisions with vehicles, and loss of browse and cover for movement, future development could cumulatively impair mule deer use of the available browse, or their access to surface water or fawning habitat. Such development could block the local migration route that passes through and around Crowley Lake, or redirect animals onto US 395, or limit greater sage grouse access to sagebrush resources and available chick-rearing habitat.

McGEE CREEK AND LONG VALLEY. These unincorporated communities lie adjacent to the US 395 corridor, which partially isolates them from the greater extent of private and public lands that make up the Long Valley Region to the

east. Both remain well connected to the public lands of the steeply rising Sierra Nevada to the immediate west. The reach of McGee Creek and the artesian springs and outflows that these communities encompass are connected offsite via culverts under US 395 to a network of water spreading ditches that support extensive pastures near the shore of Crowley Lake, and ultimately discharge to the Owens River at Crowley Reservoir. The perennially watered channels within the Mono County communities contain slow-flowing reaches, and limited areas of quiet pools that may yet serve as refugia for populations of sensitive mollusks, fish and amphibians of the region.

While the highway likely functions as a barrier to dispersal and wildlife movements from the east, there are currently no other significant barriers to wildlife use of the remaining undeveloped areas. The current situation in each community is a core of existing development surrounded by buffer-like areas where the only apparent disturbance has been routine firebreak clearing. Riparian areas include conditions ranging from channelized, devegetated, or otherwise highly disturbed in core areas to relatively undisturbed habitats at community fringes that may reasonably harbor sensitive plants and wildlife of the region. Potentially occurring sensitive plants would be adapted to the dependable supply of moisture, and wildlife that potentially would be attracted to the limited dense and productive vegetation of riparian areas includes nesting migratory birds such as willow flycatcher and burrowing rodents such as Mt. Lyell shrew and Sierra Nevada mountain beaver. Upland scrub habitats occur within a traditional migratory corridor for mule deer, in an area where the corridor is already impeded by the US 395 corridor, and sagebrush-dominated scrub of this area may be within the greater Long Valley habitat that is used by the largest core population of greater sage grouse in Mono County.

McGee Creek and Long Valley Impacts: Future development in McGee Creek and Long Valley may impact the potentially occurring sensitive plant species Long Valley milkvetch, Lemmon's milkvetch, Mono milkvetch, Masonic rockcress, pinyon rockcress, upswept moonwort, scalloped moonwort, Inyo County star-tulip, western single-spiked sedge, subalpine fireweed, Booth's evening primrose, Booth's hairy evening primrose, pine fritillary, Inyo hulsea, dwarf monolepis, small-flowered grass of Parnassus, scalloped-leaved lousewort, naked-stem phacelia, slender-leaved pondweed, foxtail thelypodium, and marsh arrow-grass, and the sensitive bryophyte Blandow's bog moss, through direct loss of occurring populations or displacement of the habitat they occupy. Future development could similarly impact the potentially occurring sensitive wildlife species Wong's springsnail, Owens sucker, Owens speckled dace, Long Valley speckled dace, Owens tui chub, Mount Lyell salamander, Swainson's hawk, greater sage grouse (Bi-State DPS), willow flycatcher, Sierra Nevada mountain beaver, western white-tailed jackrabbit, Mount Lyell shrew, American badger, and Sierra Nevada red fox. Impacts to upland scrub vegetation habitat that contains a substantial fraction of bitterbrush may reduce the local carrying capacity for mule deer that migrate through the area. Loss of upland scrub vegetation habitat that is dominated by dense big sagebrush, or emplacement of new structures and activities that subsidize predator abundance or grant predatory advantage in these habitats (for example, new raptor perches) may reduce the available habitat for greater sage grouse that potentially may forage or choose to nest in the area. Removal of riparian tree canopies could impact Wong's springsnail, Owens sucker, Owens speckled dace, Long Valley speckled dace, and Owens tui chub due to loss of the shaded habitat, bank stabilization, and flow attenuation they provide.

Alterations to the hydrologic function, water quality, or quantity of the naturally occurring perennial or seasonal spring-driven surface flows at McGee Creek and Long Valley could impact the potentially occurring sensitive plant species Lemmon's milkvetch, upswept moonwort, scalloped moonwort, Inyo County star-tulip, western single-spiked sedge, subalpine fireweed, small-flowered grass of Parnassus, scalloped-leaved lousewort, slender-leaved pondweed, and marsh arrowgrass, and the sensitive bryophyte Blandow's bog moss. Such alterations could also impact populations of the potentially occurring sensitive wildlife species Wong's springsnail, Owens sucker, Owens speckled dace, Long Valley speckled dace, Owens tui chub, and Mount Lyell salamander, which are dependent on aquatic habitat for all or part of their life cycle. Disturbance of riparian habitats that have not been subjected to thinning or livestock grazing and trampling could cause impact to denning habitat of potentially occurring Sierra Nevada mountain beaver and Mount Lyell shrew. Impacts identified for habitats containing spring-driven surface flows within McGee Creek and Long Valley may extend downstream to long-standing irrigation canals of the western Long Valley, and all these flows are tributary to Owens River at Crowley Reservoir.

Projects that promote the abundance of non-native annual species in upland scrub plant communities, especially occurring cheatgrass, could negatively impact the effective fire frequency of the scrub both within town and at the surrounding public lands, leading to displacement of native browse species upon which summer resident and migrating mule deer depend, and upon which foraging or nesting greater sage grouse of the South Mono PMU may

depend. Increased noise, night lighting, presence of domestic dogs, fencing, collisions with vehicles, and loss of browse and cover for movement associated with future development could cumulatively impact wildlife access to surface water, blocking migration routes or redirecting animals onto US 395.

JUNE LAKE. Areas of existing and future development in June Lake include The Village/Highlands/Rodeo Grounds, a mountainous and lakes basin area at and near the naturally occurring June Lake and Gull Lake, and Downcanyon along Reversed Creek at and above its confluence with Rush Creek and Silver Lake. The habitats that are available for sensitive plants and wildlife in these areas are the most diverse of any unincorporated community studied in Mono County, ranging from massive, sparsely vegetated granite outcrops to upland coniferous forest to lush riparian and lakeshore areas. Furthermore, among riparian plant communities especially, the range of dominant canopy and understory species, and the corresponding juxtapositioned differences in habitat structures is greater than at any other studied town. With the exception of lowlands between June Lake and Gull Lake, a few existing developments along Reversed Creek, and a limited set of tributaries that have been dewatered for domestic supply, riparian corridors of June Lake remain relatively intact and have an undisturbed appearance that brings notable aesthetic value to the community. Their overall integrity implies that suitable habitat for regionally adapted plant and wildlife species remains available and may be occupied, and the variability of these habitats widens the set of potentially occurring sensitive species.

Artesian springs number more than one hundred within the Downcanyon area, and are also present occasionally in the Village and Rodeo Grounds areas. Occurrences are invariably marked by a preponderance of wetland-adapted vegetation similar to adjacent assemblages along the various riparian corridors, and these corridors remain relatively densely vegetated and available for use by wildlife that reside within or pass through town. The pattern of residential and business development has generally not created significant barriers to wildlife dispersal and movement into the area of potential future development from outlying areas of high quality habitat. Like most unincorporated communities in Mono County, the vegetation of outlying adjacent lands is expansive, undisturbed forest, sagebrush scrub, and riparian woodlands.

Soils are generally derived from granitic parent material, with relatively high organic matter accumulation in low-lying areas, where riverine and springfed soil saturation occurs at least seasonally and commonly persists throughout the year. However, small contrasting areas of pumice accumulation (always with low organic matter content) and basins with internal drainage may occur in the Village/Highlands/Rodeo Grounds area.

June Lake Impacts: Future development in June Lake may impact the potentially occurring sensitive plant species mountain bentgrass, Long Valley milkvetch, Mono milkvetch, Masonic rockcress, Tulare rockcress, scalloped moonwort, common moonwort Liddon's sedge, western single-spiked sedge, western valley sedge, tall draba, subalpine fireweed, Booth's evening primrose, Booth's hairy evening primrose, Mono Lake lupine, Torrey's blazing star, bog sandwort, Robbins' pondweed, Oregon champion, Masonic Mountain jewelflower, slender-leaved pondweed, and golden violet, the sensitive bryophyte Bolander's candlemoss, and the sensitive aquatic felt lichen, through direct loss of occurring populations or displacement of the habitat they occupy. Future development could similarly impact the potentially occurring sensitive wildlife species Mount Lyell salamander, Swainson's hawk, greater sage grouse (Bi-State DPS), northern harrier, yellow flycatcher, willow flycatcher, bald eagle, osprey, Brewer's sparrow, yellow-headed blackbird, Sierra Nevada mountain beaver, pygmy rabbit, spotted bat, western mastiff bat, western white-tailed jackrabbit, Sierra marten, fisher (West Coast DPS), long-eared myotis, Yuma myotis, Mount Lyell shrew, American badger, and Sierra Nevada red fox..

Loss of upland scrub vegetation habitat that is dominated by dense big sagebrush, or emplacement of new structures and activities that subsidize predator abundance or grant predatory advantage in these habitats (for example, new raptor perches) may reduce the habitat available for potentially occurring pygmy rabbit and western white-tailed jackrabbit, and the (marginally available) habitat for greater sage grouse (Parker Meadows PMU) that potentially may forage or raise broods in the Highlands area. Removal of riparian or nearby upland standing snags or large downed tree boles could impact denning habitat for potentially occurring Sierra Nevada mountain beaver, Sierra marten, and fisher, and for the typical prey species of Sierra marten and fisher, and roosting habitat for potentially occurring bats including western mastiff bat, long-eared myotis, and Yuma myotis, Project-related disturbance to upland habitats containing large conifers could impact nesting bald eagle and osprey, while disturbance to areas near the meadow – riparian forest interface at Silver Lake could impact nesting Swainson's hawk and northern harrier, if this disturbance occurs during the period February 15 to September 15.

Due to increased noise, night lighting, presence of domestic dogs, fencing, collisions with vehicles, and loss of browse and cover for movement, future development could cumulatively impair mule deer use of the available browse, their access to surface water, fawning habitat, or migration routes.. Further loss of integrity of the naturally occurring riparian corridor vegetation could cumulatively impact habitat availability, population dispersal, and other movements of Mount Lyell salamander, Sierra marten, fisher, Mount Lyell shrew, and Sierra Nevada red fox. Construction of development that erects linear barriers to wildlife movement may redirect animals onto Highway 158.

Any alterations to the hydrologic function, water quality, or quantity of the naturally occurring perennial or seasonal surface flows, including spring-driven flows, that are tributary to Reversed Creek or Rush Creek could impact the potentially occurring sensitive plant species mountain bentgrass, scalloped moonwort, common moonwort, Liddon's sedge, western single-spiked sedge, western valley sedge, tall draba, subalpine fireweed, bog sandwort, Robbins' pondweed, and, slender-leaved pondweed, the sensitive bryophyte Bolander's candel moss, and the sensitive aquatic felt lichen. Such alterations could also impact populations of the potentially occurring sensitive wildlife species Mount Lyell salamander and yellow-headed blackbird, which are dependent on aquatic habitat for part of their life cycle. Disturbance or subsequent project-related dieback of riparian and lakeshore habitats could cause impact to denning habitat of potentially occurring Sierra Nevada mountain beaver and Mount Lyell shrew, and nesting yellow warbler, willow flycatcher, and yellow-headed blackbird. Impacts identified for habitats containing surface flows may extend downstream to the Rush Creek drainage, which is terminal at Mono Lake but is also diverted to become a substantial tributary to Owens River (at East Portal).

LEE VINING. Habitats for sensitive plants and wildlife remaining in Lee Vining are generally located only at the outskirts of town and along Lee Vining Creek. Most of the diversity of occurring species is restricted to the riparian forest and woodland habitats of Lee Vining Creek, and most of the potentially occurring sensitive species would be found only there. While the Lee Vining Creek riparian zone vegetation is as yet in recovery from significant historical disturbance (the reach through Lee Vining was dewatered 1947-1986), US 395 and the adjacent power station are now the only substantial ecological barriers to use by local wildlife. Sensitive birds, bats, salamanders, and mammals may enter the area from adjacent habitats at the nearby Mono Lake reserve, or from the extensive scrub-covered public lands of Pumice Valley. Lee Vining is situated at the mouth of Lee Vining Canyon, an impressive Sierra Nevada drainage known to harbor extant populations of many sensitive species. In the 30 years since stream rewatering, it is possible that sensitive wetland plants have also colonized the restored riparian habitat of Lee Vining Ck.

Most of the vegetation where future development may occur is upland sagebrush scrub. Relatively undisturbed soils in these relatively xeric plant communities are often signaled by the presence of relic wave berms, which were created by the lakeshore action of the (post-glacially) retreating Mono Lake. These soils are generally pumice-dominated, and it is possible that the areas of slightly depressed topography between relic berms are internally drained. Within any larger sagebrush scrub assemblages at Lee Vining, it will be possible to find embedded areas of elevated salinity or nutrient deficiency that cause shifts in dominant vegetation and create habitat for potentially occurring sensitive plants of the region.

Lee Vining Impacts: Future development in Lee Vining may impact the potentially occurring sensitive plant species Great Basin onion, Mono milkvetch, Masonic rockcress, scalloped moonwort, common moonwort, Wheeler's dune-broom, Bodie Hills cusickiella, Booth's evening primrose, Mono Lake lupine, intermontane lupine, Torrey's blazing star, Robbins' pondweed, Oregon champion, Masonic Mountain jewelflower, slender-leaved pondweed, dune horsebrush, and golden violet, and the sensitive aquatic felt lichen, through direct loss of occurring populations or displacement of the habitat they occupy. Future development could similarly impact the potentially occurring sensitive wildlife species Mount Lyell salamander, long-eared owl, greater sage grouse (Bi-State DPS), yellow flycatcher, willow flycatcher, osprey, bank swallow, Brewer's sparrow, Sierra Nevada mountain beaver, pygmy rabbit, western mastiff bat, western white-tailed jackrabbit, long-eared myotis, Yuma myotis, American badger, and Sierra Nevada red fox.. Loss of upland scrub vegetation habitat that is dominated by dense big sagebrush, or emplacement of new structures and activities that subsidize predator abundance or grant predatory advantage in these habitats (for example, new raptor perches) may reduce the habitat available for potentially occurring pygmy rabbit and western white-tailed jackrabbit, and the available habitat for greater sage grouse (Parker Meadows PMU) that potentially may forage in the Lee Vining area. Removal of riparian or nearby upland standing snags or

large downed tree boles could impact denning habitat for potentially occurring Sierra Nevada mountain beaver, and roosting habitat for potentially occurring bats including western mastiff bat, long-eared myotis, and Yuma myotis. In addition, removal of existing buildings could impact roosting bats such as western mastiff bat. Disturbance of the gorge-like habitat associated with Lee Vining creek could impact colonially nesting bank swallow.

Any substantial alterations to the hydrologic function, water quality, or seasonal dynamics of Lee Vining Creek could impact the potentially occurring sensitive plant species scalloped moonwort, common moonwort, Robbins' pondweed, and slender-leaved pondweed, and the sensitive aquatic felt lichen. Such alterations could also directly impact the potentially occurring sensitive wildlife species Mount Lyell salamander which is dependent on aquatic habitat for part of its life cycle, or could cumulatively impact population dispersal of this species. Impacts identified for habitats containing surface flows may extend downstream to its terminus at Mono Lake. Project-related disturbance to vegetation within or near the Lee Vining Creek corridor could impact nesting yellow warbler and willow flycatcher, if the disturbance occurs during the period February 15 – September 15.

Projects that promote the spread of non-native annual species in upland scrub plant communities, especially occurring cheatgrass, could negatively impact the effective fire frequency of surrounding scrub, leading to displacement of native browse species upon which resident and migrating mule deer depend, and upon which foraging greater sage grouse may depend. Due to increased noise, night lighting, presence of domestic dogs, fencing, collisions with vehicles, and loss of browse and cover for movement, future development could cumulatively impair mule deer use of the available browse, or their access to surface water at Lee Vining Creek. Construction or installations that create linear barriers to wildlife movement may increase collisions by redirecting animals onto US 395.

BRIDGEPORT. Central Bridgeport occupies a small portion of the Bridgeport Valley, in the easternmost portion of the wide, meadow-like flatlands that characterize the local landscape. Potentially developable lands at the margin, where irrigated and spring-watered meadows transition to relatively dry, low hills, are covered by sagebrush scrub and singleleaf pinyon woodland. Spring-driven wetlands at this margin have developed saline character, including dominance by species tolerant to saline-alkaline soils and the presence of an episodic evaporite crust. Their spatial influence is complexly interspersed with the irrigated, presumably somewhat freshened soils of the valley flatlands, and some springflows are robust enough to seasonally discharge into the East Walker River as it flows through Bridgeport. Extensive meadow-like pasturage has been maintained by long-standing ditch systems that deliver diverted water flowing from the nearby Sierra Nevada. Surface waters and shallow groundwater maintained in these habitats also seasonally discharge into the East Walker River. All of these meadows and meadow-like assemblages, whether naturally occurring or managed, exhibit certain similarities: the dominant plants are generally subject to long-term, intensive grazing, mowing, or OHV-related disturbance, yet all exhibit populations of primarily native sedges, rushes, and grasses that are self-sustaining under the current pattern of seasonal recharge.

In contrast to the wetland and wetland-like plant communities of the lowlands and lowlands fringe, the rolling hills where development will occur are seasonally dry. The vegetation and wildlife there are subject to long annual drought induced by a rain shadow effect of the Sierra Nevada, receiving some respite only when monsoonal thunderstorms develop. The only incised conveyances of surface waters in upland areas are very small tributary swales and gullies that carry ephemeral flows. None of these maintain meadow-like vegetation or exhibit shifts in the dominant vegetation to greater diversity, more vigorous growth, or wetland-tolerant species. Uplands are thus species-depauperate generally, and large blocks of relatively undisturbed scrub are dominated by a single species, big sagebrush, with a relatively intact desert pavement mulch.

Historical, progressive modification of all naturally occurring wetland resources is very evident in Bridgeport. Lush or diverse growth now occurs only where livestock grazing is excluded. Some springfed outflows are completely devegetated or now support only non-native plant species, and most have been channelized and eventually diverted. Existing housing and infrastructure that is scattered in the low hills of Bridgeport, and the highly traveled US 395, serve to some degree to isolate Bridgeport Valley bottomlands and portions of the East Walker River from Bodie Hills and Masonic Hills upland montane habitats on extensive public lands to the north and east.

Bridgeport Impacts: Future development in Bridgeport may impact the potentially occurring sensitive plant species Great Basin onion, Long Valley milkvetch, Lavin's milkvetch, broad-keeled milkvetch, Masonic rockcress, Inyo County star-tulip, western valley sedge, Hall's meadow hawksbeard, Bodie Hills cusickiella, Dugway's wild buckwheat, American manna grass, intermontane lupine, Torrey's blazing star, sagebrush bluebells, alkali tansy sage, prairie wedge grass, Masonic Mountain jewelflower, many-flowered thelypodium, and golden violet, and the sensitive bryophyte Blandow's bog moss, through direct loss of occurring populations or displacement of the habitat they occupy. Future development could similarly impact the potentially occurring sensitive wildlife species Wong's springsnail, greater sage grouse (Bi-State DPS), pygmy rabbit, western white-tailed jackrabbit, Mount Lyell shrew, and American badger. Loss of upland scrub vegetation habitat that contains a substantial fraction of big sagebrush, including Black Greasewood Scrub, or emplacement of new structures and activities that subsidize predator abundance or grant predatory advantage in these habitats (for example, new raptor perches) may reduce the habitat available for potentially occurring pygmy rabbit and western white-tailed jackrabbit, and the available habitat for greater sage grouse (Bodie Hills PMU) that potentially may forage or raise broods in the Bridgeport area.

Any substantial alterations to the hydrologic function, water quality, or seasonal dynamics of East Walker River or long-standing tributary irrigation and drainage waters in Bridgeport Valley could impact the potentially occurring sensitive plant species Inyo County star-tulip, western valley sedge, Hall's meadow hawksbeard, American manna grass, Torrey's blazing star, sagebrush bluebells, alkali tansy sage, and prairie wedge grass, and the sensitive bryophyte Blandow's bog moss. Such alterations could also directly impact the potentially occurring sensitive wildlife species Wong's springsnail, which is dependent on aquatic habitat for all of its life cycle. Impacts identified for habitats containing surface flows may extend downstream to the Bridgeport Reservoir and Walker River, which is considered a Waters of the U.S.

Projects that promote the spread of occurring non-native trees and grasses in wetland and riparian plant communities or in upland scrub plant communities, especially occurring cheatgrass, could displace sensitive plant species and native browse species upon which wildlife such as mule deer and greater sage grouse depend. Encouragement of non-native plant spread may negatively impact the effective fire frequency of the vegetation. Due to increased noise, night lighting, presence of domestic dogs, fencing, collisions with vehicles, and loss of browse and cover for movement, future development could cumulatively impair wildlife use of the available browse, or their access to surface water at East Walker River. Construction or installations that create linear barriers to wildlife movement may increase collisions by redirecting animals onto US 395.

WALKER. Potentially developable lands in the unincorporated community of Walker include the southernmost portion of Antelope Valley, and the lowest gorge-like portion above the mouth of the West Walker River Canyon. Most of the lower lying expanse of Antelope Valley flatlands, which lies mainly north of Walker, has been converted to annual cropping fields and pasture. Business and housing developments within Walker have occurred and will occur primarily along the West Walker River, and on the lower slopes of mountainous terrain ringing the southern end of Antelope Valley. The perennial flow of West Walker River supports patches of typical Great Basin riparian forest, and some blocks of upland scrub east of the river remain relatively intact. But a far more extensive portion of the vegetation of Walker is now in recovery from catastrophic wildfire and/or flooding, which have destroyed most of the riparian forest, pinyon-juniper woodland, and sagebrush scrub that until recently was characteristic of the mouth of Walker River Canyon and the southern fringe of Antelope Valley.

Long-standing diversions of the West Walker River into irrigation supply canals for agriculture to the north has created corridors of riparian habitat within the otherwise arid landscape east of the river. These continuous but narrow, seasonally to perennially watered plant communities have become largely analogous to naturally occurring riparian corridors at Mill Creek and Rock Creek, perennially watered tributaries that join the West Walker River as it passes through Walker. Like these tributaries, canals and ditches are patchily dominated by non-native trees. Non-native plants, primarily annual species such as cheatgrass, are prevalent in every community type and nearly every occurring example in Walker. Weedy stands occur in historically revegetated areas west of the river, along US 395, and across the entire area affected by wildfire.

Walker Impacts: Future development in Walker may impact the potentially occurring sensitive plant species Lavin's milkvetch, Bodie Hills rockcress, Liddon's sedge, western valley sedge, Bodie Hills cusickiella, American manna grass, little cutleaf, sagebrush bluebells, Mono County phacelia, spiny milkwort cutleaf checkerbloom, prairie

wedge grass, and Masonic Mountain jewelflower, and the sensitive bryophytes Blandow's bog moss and Shevock's bristle moss, through direct loss of occurring populations or displacement of the habitat they occupy. Future development could similarly impact the potentially occurring sensitive wildlife species greater sage grouse (Bi-State DPS), pallid bat, western white-tailed jackrabbit, western small-footed myotis, long-eared myotis, fringed myotis, Yuma myotis, and American badger. Riparian and meadow habitats that have been created and maintained by long-standing irrigation canals (where vegetation development is analogous to nearby naturally occurring riparian and meadow habitat) are treated the same as naturally occurring habitats when analyzing impacts to sensitive species. Despite being recently converted by wildfire, disturbance of former areas of upland scrub and Pinyon-Juniper Woodland could impact potentially occurring (relic) populations of Bodie Hills cusickiella, little cutleaf, sagebrush bluebells, Mono County phacelia, spiny milkwort cutleaf checkerbloom, and Masonic Mountain jewelflower, and the sensitive bryophyte Shevock's bristle moss. Projects that will disturb rock outcrops in upland scrub habitats could impact roosting bats, including pallid bat, western small-footed myotis, long-eared myotis, fringed myotis, and Yuma myotis.

Any substantial alterations to the hydrologic function, water quality, or seasonal dynamics of West Walker River, its tributary streams, and long-standing irrigation and collection ditches in Antelope Valley could impact the potentially occurring sensitive plant species Liddon's sedge, western valley sedge, American manna grass, sagebrush bluebells, cutleaf checkerbloom, and prairie wedge grass, and the sensitive bryophyte Blandow's bog moss. Such alterations or loss of habitat dominated by big sagebrush could also impact overwintering greater sage grouse. Removal or other substantial disturbance of existing buildings in disturbed areas, or large trees in riparian settings, or culverts and bridges associated with the numerous watered conveyances, and existing dewatered conveyances, could cause impacts to roosting bats, including pallid bat, western small-footed myotis, fringed myotis, and Yuma myotis. Impacts identified for habitats containing surface flows may extend downstream to Walker Lake in Nevada.

Projects that promote the spread of occurring non-native Russian olive, white poplar, black locust or Siberian elm trees in wetland and riparian plant communities could lead to displacement of potentially occurring Liddon's sedge, western valley sedge, American manna grass, sagebrush bluebells, cutleaf checkerbloom, and prairie wedge grass. Projects that promote the spread or persistence of non-native annual species in upland scrub plant communities, especially occurring cheatgrass, could negatively impact the effective fire frequency of surrounding scrub, leading to displacement of native browse species upon which resident mule deer depend, and upon which overwintering greater sage grouse may depend. Due to increased noise, night lighting, presence of domestic dogs, fencing, collisions with vehicles, and loss of browse and cover for movement, future development could cumulatively impact mule deer by limiting use of the available browse, limiting access to surface water at West Walker River, its tributaries, and associated irrigation water conveyances, or redirecting animals onto US 395.

COLEVILLE. Coleville is located adjacent to the West Walker River at the western edge of Antelope Valley. Existing developments include annual cropping systems and irrigated pastures in the areas between generally scattered housing. Long-standing pastures and agricultural fields in rotation have lost much of their former habitat value for native vegetation and wildlife. However, vegetated canals, windrow trees, and border hedgerows form an interconnected network with the West Walker River and its tributaries throughout the town, and many attractive habitat values for nesting birds, and aquatic/riparian species are provided. Non-native, invasive trees, agricultural weeds and pasture grasses are common in these systems, but the dominant vegetation is typically native. For example, native grasses have often colonized the irrigated habitats, even where grazing has been regularly practiced. In addition to their cultural roles, these created habitats function to maintain local species diversity, and alter the quality of waters that ultimately are returned to the West Walker River.

Coleville is bisected by US 395, which may be a significant barrier to daily wildlife use of surface waters and lush vegetation that characterize the most attractive available habitats, including riparian forest and woodland stands at the West Walker River. Spring-driven surface flows arising west of the highway, seasonal tributary flows to West Walker River, and some unlined irrigation conveyances must pass under the highway through culverts. Diversions of waters arising naturally west of the highway are generally seasonal, and may be subject to ecologically unreliable patterns of flow management, yet the narrow corridors of primarily native, riparian analog growths mapped in 2014 on either side of the highway were otherwise remarkably continuous and vigorous.

Native upland, riparian, and palustrine emergent wetlands west of US 395 are for the most part in seral recovery from devastating wildfire. Remaining unburned stands near the school suggest that the upland vegetation may one day return to pinyon-juniper woodland. Wetland areas are returning to native cover by willows or sedges, with some vegetative indications of saline soil development at fault-aligned springs west of Larson Lane. A pervasive member of all of these assemblages, at least since the wildfire opened these habitats, is cheatgrass, a non-native annual grass that reproduces prodigiously and may ecologically arrest the return to the desired native vegetation. This species can maintain an open, disturbed habitat as now exists by significantly increasing the frequency of reburn, and is of little value to local wildlife in comparison to the desired condition. Other significant non-natives of the weedy current condition include tumble mustard and Russian thistle.

Coleville Impacts: Future development in Coleville may impact the potentially occurring sensitive plant species Lavin's milkvetch, Liddon's sedge, western valley sedge, Bodie Hills cusickiella, American manna grass, little cutleaf, spiny milkwort cutleaf checkerbloom, and Masonic Mountain jewelflower, and the sensitive bryophyte Shevock's bristle moss, through direct loss of occurring populations or displacement of the habitat they occupy. Future development could similarly impact the potentially occurring sensitive wildlife species greater sage grouse (Bi-State DPS), pallid bat, Sierra Nevada mountain beaver, western small-footed myotis, long-eared myotis, fringed myotis, and Yuma myotis. Riparian and meadow habitats created and maintained by long-standing irrigation canals should be treated as analogous to naturally occurring riparian and meadow habitat with regard to habitat loss, and so disturbance there could impact potentially occurring Liddon's sedge, western valley sedge, American manna grass, and cutleaf checkerbloom. Despite being recently converted by wildfire, disturbance of former areas of upland scrub and Pinyon-Juniper Woodland could impact potentially occurring (relic) populations of Lavin's milkvetch, Liddon's sedge, western valley sedge, Bodie Hills cusickiella, little cutleaf, spiny milkwort cutleaf checkerbloom, and Masonic Mountain jewelflower, and the sensitive bryophyte Shevock's bristle moss. Projects that will disturb rock outcrops in upland scrub habitats could impact roosting bats, including pallid bat, western small-footed myotis, long-eared myotis, fringed myotis, and Yuma myotis.

Any substantial alterations to the hydrologic function, water quality, or seasonal dynamics of West Walker River, its tributary streams, and long-standing irrigation and collection ditches in Antelope Valley, or the meadows supported by this irrigation in Coleville, could impact the potentially occurring sensitive plant species Liddon's sedge, western valley sedge, American manna grass, and cutleaf checkerbloom and could impact potentially occurring brood-raising greater sage grouse (Desert Creek/Fales or Pine Nut PMU). Such alterations or loss of (marginally available) habitat dominated by big sagebrush could also impact overwintering greater sage grouse. Removal or other substantial disturbance of existing buildings in disturbed areas, or of culverts and bridges associated with watered conveyances, could cause impacts to roosting bats, including pallid bat, western small-footed myotis, fringed myotis, and Yuma myotis. Impacts identified for habitats containing surface flows may extend downstream to Topaz Lake and Walker River.

Projects that promote the spread of occurring non-native Russian olive, white poplar, black locust or Siberian elm trees in wetland and riparian plant communities could lead to displacement of potentially occurring Liddon's sedge, western valley sedge, American manna grass, and cutleaf checkerbloom. Projects that promote the spread or persistence of non-native annual species in upland scrub plant communities, especially occurring cheatgrass, could negatively impact the effective fire frequency of surrounding scrub, leading to displacement of native browse species upon which resident mule deer depend, and upon which overwintering greater sage grouse may depend. Due to increased noise, night lighting, presence of domestic dogs, fencing, collisions with vehicles, and loss of browse and cover for movement, future development could cumulatively impair mule deer use of the available browse, or their access to surface water at West Walker River, its tributaries, and associated irrigation water conveyances, or could redirect animals onto US 395.

TOPAZ. Topaz includes two areas of potential development separated by farmlands that are typical of Antelope Valley bottomlands outside the unincorporated communities of Walker, Coleville, and Topaz. The southern area lies just north of Coleville, and the northern area narrowly adheres to the shoreline of Topaz Lake. Both areas are highly disturbed overall, and are relatively xeric despite their proximity to the perennial flows of West Walker River. The southern area is watered by a canal aligned on the contour just above (west) of US 395, and several springs located to the south of Topaz Lane. The canal supports long-standing tree rows and irrigated pastures along the highway and to the east as far as West Walker River. Invasive non-native trees are sometimes prominent. Vegetative indications of saline soil

development are present at the springs. No irrigation conveyances or agricultural fields are currently present in the northern area of Topaz, but the springfed California Creek currently supports riparian vegetation and is tributary to Topaz Lake there. All native upland habitats west of the highway are currently in seral recovery from devastating wildfire. The dry and rocky slopes have recovered little native plant cover, and the habitat has clearly lost much of its former value to wildlife such as mule deer and greater sage grouse. A pervasive member of all of these assemblages, at least since the wildfire opened these habitats, is cheatgrass, a non-native annual grass that reproduces prodigiously and may ecologically arrest the return to the desired native vegetation. This species can maintain an open, disturbed habitat as now exists by significantly increasing the frequency of reburn, and is of little value to local wildlife in comparison to the desired condition. Other significant non-natives of the weedy current condition include tumble mustard and Russian thistle.

Topaz Impacts: Future development in Topaz may impact the potentially occurring sensitive plant species Lavin's milkvetch, Liddon's sedge, western valley sedge, Bodie Hills cusickiella, American manna grass, little cutleaf, spiny milkwort cutleaf checkerbloom, and Masonic Mountain jewelflower, and the sensitive bryophyte Shevock's bristle moss, through direct loss of occurring populations or displacement of the habitat they occupy. Future development could similarly impact the potentially occurring sensitive wildlife species greater sage grouse (Bi-State DPS), pallid bat, Sierra Nevada mountain beaver, western small-footed myotis, long-eared myotis, fringed myotis, and Yuma myotis. Riparian and meadow habitats created and maintained by long-standing irrigation canals should be treated as analogous to naturally occurring riparian and meadow habitat with regard to habitat loss, and so disturbance there could impact potentially occurring Liddon's sedge, western valley sedge, American manna grass, and cutleaf checkerbloom. Despite being recently converted by wildfire, disturbance of former areas of upland scrub and Pinyon-Juniper Woodland could impact potentially occurring (relic) populations of Lavin's milkvetch, Liddon's sedge, western valley sedge, Bodie Hills cusickiella, little cutleaf, spiny milkwort cutleaf checkerbloom, and Masonic Mountain jewelflower, and the sensitive bryophyte Shevock's bristle moss. Projects that will disturb rock outcrops in upland scrub habitats could impact roosting bats, including pallid bat, western small-footed myotis, long-eared myotis, fringed myotis, and Yuma myotis.

Any substantial alterations to the hydrologic function, water quality, or seasonal dynamics of California Creek, and long-standing irrigation and collection ditches, or the meadows supported by this irrigation in Topaz, could impact the potentially occurring sensitive plant species Liddon's sedge, western valley sedge, American manna grass, and cutleaf checkerbloom, and could impact potentially occurring brood-raising greater sage grouse (Desert Creek/Fales or Pine Nut PMU). Such alterations or loss of (marginally available) habitat dominated by big sagebrush could also impact overwintering greater sage grouse. Removal or other substantial disturbance of existing buildings in disturbed areas, or large trees in riparian and lakeside settings, or culverts and bridges associated with watered or dewatered conveyances, could cause impacts to roosting bats, including pallid bat, western small-footed myotis, fringed myotis, and Yuma myotis. Impacts identified for habitats containing surface flows may extend downstream to Topaz Lake.

Projects that promote the spread of occurring non-native Russian olive, white poplar, black locust or Siberian elm trees or spotted knapweed, in wetland and riparian plant communities could lead to displacement of potentially occurring Liddon's sedge, western valley sedge, American manna grass, and cutleaf checkerbloom. Projects that promote the spread or persistence of non-native annual species in upland scrub plant communities, especially occurring cheatgrass, could negatively impact the effective fire frequency of surrounding scrub, leading to displacement of native browse species upon which resident mule deer depend, and upon which overwintering greater sage grouse may depend. Due to increased noise, night lighting, presence of domestic dogs, fencing, collisions with vehicles, and loss of browse and cover for movement, future development could cumulatively impair the landscape's function to support sensitive game species by limiting mule deer use of the available browse, or their access to surface water at West Walker River, Topaz Lake, California Creek, and associated irrigation water conveyances, or by redirecting animals onto US 395.

RTP/GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE IMPACTS TO CANDIDATE OR SPECIAL STATUS SPECIES

Please refer to Table 4.4-10 in EIR Appendix D.

IMPACT 4.4(b): Implementation of the proposed RTP/General Plan Update could have a substantial adverse effect, directly and through habitat modifications, on riparian habitats and other sensitive natural communities identified in local or regional plans, policies, regulations or by the CDFW or USFWS.

POTENTIALLY SIGNIFICANT ADVERSE IMPACT: Approval of the proposed RTP/General Plan update would not constitute approval of or entitlement for any development or infrastructure projects. However, implementation of land uses and activities included in the RTP/General Plan update would facilitate and allow future development activities throughout the County. Such activities could result in significant adverse impacts on riparian habitats and other sensitive natural communities identified in local or regional plans, policies, regulations or by the CDFW or USFWS. All 16 study areas were selected for detailed study because they are locations where the proposed RTP and General Plan update incorporate use designations that would permit future land use development or other modifications. The extents of communities where impacts may potentially occur are given in the full Biological Report (<http://monocounty.ca.gov/planning/page/mono-county-general-plan-update>). Potential impacts are identified below for each of the community study areas.

Chalfant Valley: Future development in Chalfant Valley may impact the plant community alliances comprising Transmontane Alkaline Marsh, Wild Rose Riparian Scrub, Alkali Sacaton Grassland, and Black Greasewood Scrub, which are classified as Sensitive by CDFW, through direct loss or indirectly subsequent to alteration of local groundwater dynamics. The fault-controlled hydrology that supports riparian Transmontane Alkaline Marsh, Wild Rose Riparian Scrub, and Willow Riparian Scrub also supports broader areas classified here as Big Sagebrush Scrub. This community is locally rare and restricted to seep zones. Portions of any of these community types may occur as jurisdictional wetlands or at other Waters as defined under CDFW Code §1600.

Benton: Future development in Benton may impact plant community alliances comprising Black Greasewood Scrub, which are classified as Sensitive by CDFW, through direct loss or indirectly subsequent to alteration of local groundwater dynamics. Portions of bottomlands Black Greasewood Scrub, and portions of riparian Desert Saltbush Scrub and Willow Riparian Scrub, may occur as jurisdictional wetlands or at other Waters as defined under CDFW Code §1600.

Benton Hot Springs: Future development in Benton Hot Springs may impact the riparian plant community alliances comprising Great Basin Riparian Forest, Creeping Wildrye Meadow, and Alkali Sacaton Grassland, through direct loss or indirectly subsequent to alteration of local groundwater dynamics. Portions of these communities, Transmontane Freshwater Marsh, and Dry Alkaline Meadow may occur as jurisdictional wetlands or at other Waters as defined under CDFW Code §1600.

Paradise: Future development in Paradise may impact Water Birch Riparian Scrub, and relatively pure stands of blackbrush comprising High Desert Blackbush Scrub, which are classified as Sensitive by CDFW, through direct loss. Riparian Water Birch Riparian Scrub may also be impacted by any changes in the flow pattern of Lower Rock Creek. Portions of Water Birch Riparian Scrub, through which Lower Rock Creek passes, may occur as jurisdictional wetlands or at other Waters as defined under CDFW Code §1600.

Swall Meadows: Future development in Swall Meadows may impact plant community alliances comprising Water Birch Riparian Scrub and Dry Montane Meadow, bitterbrush-dominated Great Basin Mixed Scrub, and arroyo willow-dominated Willow Riparian Scrub, which are classified as Sensitive by CDFW, through direct loss. Riparian Water Birch Riparian Scrub, Dry Montane Meadow, and arroyo willow-dominated Willow Riparian Scrub may also be impacted by any changes in local groundwater dynamics. Portions of Water Birch Riparian Scrub, and all riparian plant community alliances comprising Dry Montane Meadow, Willow Riparian Scrub, Montane Freshwater Marsh, and Wet Montane Meadow may occur as jurisdictional wetlands or at other Waters as defined under CDFW Code §1600.

Tom's Place: Future development in Tom's Place may impact bitterbrush-dominated Great Basin Mixed Scrub and Jeffrey Pine Forest, Water Birch Riparian Scrub, and Great Basin Riparian Forest, which are classified as Sensitive by CDFW, through direct loss. Riparian portions of Water Birch Riparian Scrub, Great Basin Riparian Forest, and Willow

Riparian Scrub, through which Rock Creek passes, may occur as jurisdictional wetlands or at other Waters as defined under CDFW Code §1600.

Little Round Valley: Future development in Little Round Valley may impact bitterbrush-dominated Great Basin Mixed Scrub, Geyer's willow-dominated Willow Riparian Scrub, and other riparian or near-riparian plant community alliances comprising Aspen Forest, Aspen Riparian Forest, Wild Rose Riparian Scrub, Silver Sagebrush Scrub, Creeping Wildrye Meadow, and Dry Montane Meadow, which are classified as Sensitive by CDFW, through direct loss or indirectly subsequent to alteration of local groundwater dynamics. Portions of Willow Riparian Scrub, Aspen Forest, Aspen Riparian Forest, Wild Rose Riparian Scrub, Silver Sagebrush Scrub, Creeping Wildrye Meadow, Wet Montane Meadow, and Dry Montane Meadow may occur as jurisdictional wetlands or at other Waters as defined under CDFW Code §1600.

Crowley Lake: Future development in Crowley Lake may impact bitterbrush-dominated Great Basin Mixed Scrub, Geyer's willow-dominated Willow Riparian Scrub, and other riparian or near-riparian plant community alliances comprising Great Basin Riparian Forest, Aspen Forest, Aspen Riparian Forest, and Water Birch Riparian Scrub, which are classified as Sensitive by CDFW, through direct loss or indirectly subsequent to alteration of local groundwater dynamics. Portions of Great Basin Riparian Forest, Willow Riparian Scrub, Aspen Forest, Aspen Riparian Forest, Water Birch Riparian Scrub, Montane Freshwater Marsh, Wet Montane Meadow, and Dry Montane Meadow may occur as jurisdictional wetlands or at other Waters as defined under CDFW Code §1600.

McGee Creek and Long Valley: Future development in McGee Creek and Long Valley may impact bitterbrush-dominated Great Basin Mixed Scrub, and riparian plant community alliances comprising Great Basin Riparian Forest, Aspen Forest, Aspen Riparian Forest, and water sedge-dominated Montane Freshwater Marsh, which are classified as Sensitive by CDFW, through direct loss or indirectly subsequent to alteration of local groundwater dynamics. Portions of Great Basin Riparian Forest, Willow Riparian Scrub, Aspen Forest, Aspen Riparian Forest, Montane Freshwater Marsh, Wet Montane Meadow, and Dry Montane Meadow may occur as jurisdictional wetlands or at other Waters as defined under CDFW code § 1600.

June Lake: Future development in June Lake may impact riparian and spring-driven plant community alliances comprising Aspen Forest, Aspen Riparian Forest, Willow Riparian Scrub dominated by shining willow, Wet Montane Meadow dominated by small-fruited bulrush, Creeping Wildrye Meadow, and Lodgepole Pine Riparian Forest with an understory dominated by hydrophytic species including sedges. All of these plant communities, which may be impacted through direct loss or indirectly subsequent to alteration of local groundwater dynamics, are classified as Sensitive by CDFW and may occur as jurisdictional wetlands or at other Waters as defined under CDFW Code §1600.

Lee Vining: Future development in Lee Vining may impact riparian plant community alliances comprising Aspen Forest and Aspen Riparian Forest at Lee Vining Creek through direct loss or indirectly subsequent to alteration of local groundwater dynamics, or bitterbrush-dominated Great Basin Mixed Scrub through direct loss. These plant communities are classified as Sensitive by CDFW. Portions of Willow Riparian Scrub, Mixed Montane Chaparral, and Great Basin Mixed Scrub at isolated seeps and seasonal springs may occur as jurisdictional wetlands or at other Waters as defined under CDFW Code §1600.

Bridgeport: Future development in Bridgeport may impact plant community alliances comprising Black Greasewood Scrub and Creeping Wildrye Meadow, which are classified as Sensitive by CDFW, through direct loss or indirectly subsequent to alteration of local groundwater dynamics or long-standing surface water diversions. Portions of Willow Riparian Scrub, Montane Freshwater Marsh, Wet Montane Meadow, Creeping Wildrye Meadow, and Dry Alkaline Meadow, which occur at isolated seeps and seasonal springs or are supported by long-standing irrigation diversions, may occur as jurisdictional wetlands or at other Waters as defined under CDFW Code §1600.

Walker: Future development in Walker may impact plant community alliances comprising Great Basin Riparian Forest, Creeping Wildrye Meadow and bitterbrush-dominated Great Basin Mixed Scrub, which are classified as Sensitive by CDFW, through direct loss. Creeping Wildrye Meadow may also be impacted indirectly subsequent to alteration of local groundwater dynamics or long-standing surface water diversions. Portions of Great Basin Riparian Forest, Willow Riparian Scrub, Transmontane Alkaline Marsh, and Creeping Wildrye Meadow that occur at isolated springs, or adjacent to East Walker River, Mill Creek, or Rock Creek, or are supported by long-standing irrigation diversions, may occur as jurisdictional wetlands or at other Waters as defined under CDFW Code §1600.

Coleville: Future development in Coleville may impact plant community alliances comprising Great Basin Riparian Forest, Wild Rose Riparian Scrub, and Creeping Wildrye Meadow, which are classified as Sensitive by CDFW, through direct loss or indirectly subsequent to alteration of local groundwater dynamics or long-standing surface water diversions. Portions of Great Basin Riparian Forest, Willow Riparian Scrub, Wild Rose Riparian Scrub, Dry Montane Meadow, and Creeping Wildrye Meadow that occur adjacent to East Walker River and its seasonal tributaries, or are supported by long-standing irrigation diversions, may occur as jurisdictional wetlands or at other Waters as defined under CDFW Code §1600.

Topaz: Future development in Topaz may impact plant community alliances comprising Great Basin Riparian Forest and Creeping Wildrye Meadow, which are classified as Sensitive by CDFW, through direct loss or indirectly subsequent to alteration of local groundwater dynamics or long-standing surface water diversions. Portions of Great Basin Riparian Forest, Willow Riparian Scrub, and Creeping Wildrye Meadow that occur adjacent to East Walker River or California Creek, or are supported by long-standing irrigation diversions, may occur as jurisdictional wetlands or at other Waters as defined under CDFW Code §1600.

**RTP/GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE
IMPACTS TO RIPARIAN RESOURCES**

Please refer to Table 4.13-10 in EIR Appendix D.

IMPACT 4.4(c): Implementation of the proposed RTP/General Plan Update could have a substantial adverse effect, directly and through habitat modifications, on federally protected wetlands as defined by Clean Water Act §404 (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

POTENTIALLY SIGNIFICANT ADVERSE IMPACT: Approval of the proposed RTP/General Plan update would not constitute approval of or entitlement for any development or infrastructure projects. However, implementation of land uses and activities included in the RTP/General Plan update would facilitate and allow future development activities throughout the County. Such activities could result in significant adverse impacts on federally protected wetlands as defined by CWA §404. Potential impacts are identified below for each of the community study areas with potential wetlands:

Paradise: Future development in Paradise may impact Water Birch Riparian Scrub through direct loss or changes in the flow pattern of Lower Rock Creek. Portions of this plant community and the embedded channel of Lower Rock Creek, which is tributary to Owens River, are likely to be considered jurisdictional waters and wetlands as defined by federal CWA law.

Tom's Place: Future development in Tom's Place may impact Water Birch Riparian Scrub, Great Basin Riparian Forest, and Willow Riparian Scrub, through direct loss or changes in the flow pattern of Lower Rock Creek. Portions of these communities, and the embedded channel of Rock Creek, which is tributary to Owens River, are likely to be considered jurisdictional waters and wetlands as defined by federal CWA law.

Little Round Valley: Future development in Little Round Valley may impact Willow Riparian Scrub, Aspen Forest, Aspen Riparian Forest, Wild Rose Riparian Scrub, Silver Sagebrush Scrub, Creeping Wildrye Meadow, Wet Montane Meadow, and Dry Montane Meadow. Portions of these plant communities or disturbed areas that include or are adjacent to (often spring-driven) seasonal and perennial flows that are tributary to Owens River are likely to be considered jurisdictional waters and wetlands as defined by CWA law.

Crowley Lake: Future development in Crowley Lake may impact Great Basin Riparian Forest, Aspen Forest, Aspen Riparian Forest, Water Birch Riparian Scrub, Willow Riparian Scrub, Montane Freshwater Marsh, Wet Montane Meadow, and Dry Montane Meadow. The portions of these plant communities or disturbed areas that include or are

adjacent to Whisky Creek, Hilton Creek, naturally arising (often spring-driven) flows, or long-standing irrigation diversions that are tributary to Owens River, are likely to be considered jurisdictional waters and wetlands as defined by federal CWA law.

McGee Creek and Long Valley: Future development in McGee Creek and Long Valley may impact Great Basin Riparian Forest, Aspen Forest, Aspen Riparian Forest, Water Birch Riparian Scrub, Willow Riparian Scrub, Montane Freshwater Marsh, Wet Montane Meadow, and Dry Montane Meadow. Those portions of these plant communities or disturbed areas that include or are located adjacent to spring-driven flows or to McGee Creek, which are tributary to Owens River, are likely to be considered jurisdictional waters and wetlands as defined by CWA law.

June Lake: Future development in June Lake may impact Aspen Forest, Aspen Riparian Forest, Lodgepole Pine Riparian Forest, Willow Riparian Scrub, Montane Freshwater Marsh, Wet Montane Meadow, Creeping Wildrye Meadow, and Dry Montane Meadow. The portions of these plant communities or disturbed areas that contain seasonal or perennial surface waters and associated shallow groundwaters that are tributary to or located adjacent to June Lake, Reversed Creek (including Gull Lake), or Rush Creek (including Silver Lake), which all are tributary to Owens River (via the LADWP aquaduct) or Mono Lake, are likely to be considered jurisdictional waters and wetlands as defined by federal CWA law.

Lee Vining: Future development in Lee Vining may impact Aspen Forest and Aspen Riparian Forest at Lee Vining Creek, which is a perennial tributary to Owens River (via the Los Angeles Department of Water and Power aquaduct) and to Mono Lake. As such, riparian plant communities or disturbed areas adjacent to Lee Vining Creek likely would be considered within jurisdictional waters and wetlands as defined by CWA law.

Bridgeport: Future development in Bridgeport may impact Willow Riparian Scrub, Montane Freshwater Marsh, Wet Montane Meadow, Creeping Wildrye Meadow, Black Greasewood Scrub, and Dry Alkaline Meadow, which occur at (often seasonal) springs and springflow catchments or are supported by long-standing irrigation diversions, and are tributary to or located adjacent to East Walker River, are likely to be considered jurisdictional waters and wetlands as defined by CWA law.

Walker: Future development in Walker may impact Great Basin Riparian Forest, Willow Riparian Scrub, and Creeping Wildrye Meadow. Portions of these plant communities or disturbed areas that are tributary to or located adjacent to West Walker River, Mill Creek, or Rock Creek, or adjacent to long-standing surface water diversions that are tributary to West Walker River, are likely to be considered jurisdictional waters and wetlands as defined by federal CWA law.

Coleville: Future development in Coleville may impact Great Basin Riparian Forest, Willow Riparian Scrub, Wild Rose Riparian Scrub, Dry Montane Meadow, and Creeping Wildrye Meadow. Portions of these plant communities or disturbed areas that are seasonally tributary to or located adjacent to East Walker River, or are adjacent to long-standing surface water diversions that are tributary to East Walker River, are likely to be considered jurisdictional waters and wetlands as defined by CWA law.

Topaz: Future development in Topaz may impact Great Basin Riparian Forest, Willow Riparian Scrub, Wet Montane Meadow, and Creeping Wildrye Meadow. Portions of these plant communities or disturbed areas that are seasonally tributary to or located adjacent to East Walker River (including Topaz Lake), or are adjacent to long-standing surface water diversions that are tributary to East Walker River, are likely to be considered jurisdictional waters and wetlands as defined by federal CWA law.

**RTP/GENERAL PLAN POLICIES AND ACTIONS THAT
MITIGATE IMPACTS TO WETLANDS**

Please refer to Table 4.13-10 in EIR Appendix D.

IMPACT 4.4(d): RTP/General Plan Update implementation could have a substantial adverse effect, directly & through habitat modifications, on the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede use of native wildlife nursery sites.

POTENTIALLY SIGNIFICANT ADVERSE IMPACT: Approval of the proposed RTP/General Plan update would not constitute approval of or entitlement for any development or infrastructure projects. However, implementation of land uses and activities included in the RTP/General Plan update would facilitate and allow future development activities throughout the County. Such activities could result in significant adverse impacts on the movement of native resident or migratory fish or wildlife species or with established native resident or wildlife corridors, or impede use of native wildlife nursery sites. Potential impacts are identified below.

Mule Deer: With the exceptions of Chalfant Valley, Benton, Coleville, and Topaz, future development within unincorporated community areas in Mono County may impact mule deer, a species that in this area is predictably migratory along (often) known pathways that appear to be well defined. Mule deer may be impacted directly through increased vehicle collisions, due to increased traffic during migration or new temporary or permanent barriers that increase road crossing mortality. With the exception of Benton Hot Springs, development that cumulatively restricts, narrows, or closes traditional migration routes may increase crossing-related mortality at US 395. Mule deer may be impacted indirectly through loss of critical browse habitat that may be limiting to health and fecundity, which occurs in areas of concentrated use such as migration corridors and overwintering areas. Loss of bitterbrush-dominated, potentially critical browse in plant alliances comprising the community types Great Basin Mixed Scrub and Jeffrey Pine Forest may become cumulatively significant in Swall Meadows, Tom's Place, Little Round Valley, Crowley Lake, McGee Creek, Long Valley, Lee Vining and Walker. Loss of landscape connectivity may cumulatively affect mule deer daily access to surface waters during migration, because unincorporated community areas locally surround these resources. Loss of forested riparian habitat in June Lake may impact an important fawning habitat through direct loss.

Bi-State Greater Sage Grouse: With the exceptions of Chalfant Valley, Paradise, Swall Meadows, and Tom's Place, future development within unincorporated community areas in Mono County may impact greater sage grouse, a species that in this area is known to migrate between summer breeding and nesting grounds, late summer chick-rearing habitats that include naturally occurring and irrigated meadows, and overwintering sagebrush-dominated areas. Greater sage grouse may be impacted directly, through increased collisions with new fencing, trampling of nests or activities that cause nest abandonment, and increased predation by free-roaming domestic pets. Loss of habitat connectivity or access to critical chick-rearing resources in plant alliances comprising the community types Big Sagebrush Scrub, Great Basin Mixed Scrub, Transmontane Freshwater Marsh, Montane Freshwater Marsh, Wet Montane Meadow, Dry Montane Meadow, Dry Alkaline Meadow, or Creeping Wildrye Meadow may cumulatively impact migration to and use of chick-rearing habitat, leading to a significant increase in chick mortality. Mortality of adults and reproductive success may also be significantly impacted if natural predators and nest predator presence is increased by human activities that are attractive to predators, or if predatory advantage is significantly increased by erection of predator perches.

Migratory Birds: Projects that disturb the vegetation or otherwise cause nest abandonment during the nesting season for migratory birds in Chalfant Valley, Benton, Benton Hot Springs, Paradise, Walker, Coleville, and Topaz (March 1 – September 30) or Swall Meadows, Tom's Place, Little Round Valley, Crowley Lake, McGee Creek, Long Valley, June Lake, Lee Vining, and Bridgeport (April 1 – August 31) have some likelihood of affecting migratory non-game native bird species that are protected by international treaty under the federal Migratory Bird Treaty of 1918, as amended (16 U.S.C. 703 *et seq.*), or under Sections 3503, 3503.5, and 3513 of the Fish and Game Code that prohibit the take of all birds and their nests.

**RTP/GENERAL PLAN POLICIES AND ACTIONS THAT MITIGATE
IMPACTS TO WILDLIFE MIGRATION OR MOVEMENT**

Please refer to Table 4.13-10 in EIR Appendix D.

IMPACT 4.4(e): Implementation of the proposed RTP/General Plan Update would potentially conflict with existing or proposed local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

POTENTIALLY SIGNIFICANT ADVERSE IMPACT: Approval of the proposed RTP/General Plan update would not constitute approval of or entitlement for any development or infrastructure projects. However, implementation of land uses and activities included in the RTP/General Plan update would facilitate and allow future development activities throughout the County. As part of the current *Open Space and Conservation Element Update*, the county is proposing to incorporate several policies and actions designed to increase forest health and eliminate non-native vegetation (with the exception of large roadside and fencerow trees with a trunk diameter greater than 24"). However, Mono County does not have and is not at this time proposing a formal tree preservation policy. As noted below, several Mono County communities have large native trees that may be vulnerable over the life of the 2015 RTP/General Plan Update. Given the absence of an adopted protection ordinance, the project will not conflict with local policies, but the project may result in significant adverse impacts to the large native tree resources that are present in several community study areas, as noted below.

June Lake: Loss of Great Basin Juniper Woodland and Jeffrey Pine Forest may remove or significantly impact occurring large diameter, presumably ancient Sierra juniper, which provide habitat for cavity nesters, insectivorous birds, and raptors. Loss of Aspen Forest and Aspen Riparian Forest may cumulatively impact the scenic and aesthetic values imparted by aspen trees to the exposed slopes and outcrops where they occur.

Bridgeport: Future development at some roadsides may remove or significantly impact black cottonwood, Fremont cottonwood and (non-native) white poplar trees that have attained iconic age and stature in historically disturbed areas.

Walker: Loss of Great Basin Riparian Forest at banks of the West Walker River, or disturbance to understory vegetation or seasonal shallow groundwater table there, may impact remaining tall black cottonwood and Fremont cottonwood trees that currently provide the only remaining shade and vertical habitat structure at West Walker River.

Coleville: Loss of Great Basin Riparian Forest at banks of the West Walker River, or disturbance to understory vegetation or seasonal shallow groundwater table there, may impact remaining tall black cottonwood and Fremont cottonwood trees that currently provide shade and vertical habitat structure. Future development at some roadsides, within-pasture irrigation ditches, and adjacent to agricultural areas may remove or significantly impact black cottonwood and Fremont cottonwood trees that have attained iconic age and stature.

Topaz: Loss of Great Basin Riparian Forest at banks of the West Walker River or at Topaz Lake, or disturbance to understory vegetation or seasonal shallow groundwater table there, may impact remaining tall black cottonwood and Fremont cottonwood trees that currently provide shade and vertical habitat structure. Future development adjacent to US 395 may remove or significantly impact black cottonwood trees that have attained iconic age and stature.

**RTP/GENERAL PLAN POLICIES AND ACTIONS THAT
MITIGATE IMPACTS TO LOCALLY PROTECTED RESOURCES**

Please refer to Table 4.13-10 in EIR Appendix D.

IMPACT 4.4(f): Implementation of the proposed RTP/General Plan Update would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, but may conflict with provisions of a proposed Habitat Conservation Plan now under consideration.

NO IMPACT: There are currently no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans within the Mono County RTP/General Plan update study area. Moreover, approval of the proposed RTP/General Plan update would not constitute approval of or

entitlement for any development or infrastructure projects. However, the USFWS and LADWP have entered into a formal process to address threatened and endangered species and their habitat on all city-owned lands throughout the Owens River Valley, portions of which enter the Mono County RTP/General Plan Update study area. The draft HCP proposes to cover 6 species including Owens pupfish, Owens tui chub, Least Bell's Vireo, Yellow-billed Cuckoo, Southwestern Willow Flycatcher and Swainson's Hawk. Since all of the target species use riparian habitat, the HCP project area will focus on riparian systems including rivers, tributaries and wetlands that occur on LADWP-owned lands extending from the Upper Owens River south to Owens Dry Lake. Successful implementation of an HCP would allow LADWP to continue water operations (including diversions, extractions and conveyances) as well as land management operations (including recreation, livestock grazing, agriculture, gravel extraction, fire management and road construction, weed management and other activities).

**RTP/GENERAL PLAN POLICIES AND ACTIONS THAT
ADDRESS HABITAT CONSERVATION**

Please refer to Table 4.13-10 in EIR Appendix D.
